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TO THE

MISCELLANEOUS DOCUMENTS

OF THE

HOUSE OF REPRESENTATIVES

FOR THE

FIRST SESSION OF THE FORTY-EIGHTH CONGRESS,

1883-'84.

IN FORTY VOLUMES.

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48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 34.

SEÑOR CARLOS AGÜERO.

FEBRUARY 8, 1884.—Referred to the Committee on Foreign Affairs.
FEBRUARY 20, 1884.—Referred to the House Calendar and ordered to be printed.

CONGRESS OF THE UNITED STATES,
IN THE HOUSE OF REPRESENTATIVES,
February 8, 1884.

Mr. Davidson submitted the following, which was referred to the Committee on Foreign Affairs:

Resolved, That the President of the United States be requested to prevent the delivery of Señor Carlos Agüero, now in prison at Key West, Fla., and held for extradition on the demand of the Government of Spain under the treaty of extradition, until it shall be ascertained that the charges against him are true, and that he is not held for political offenses; and that the President be requested to direct the Attorney-General of the United States to have an investigation of the case made, and if it shall be found that the said Señor Carlos Agüero has been arrested for political offenses alleged to have been committed in the island of Cuba, that he cause such proceedings to be had in conformity with law as will prevent the extradition of the said Señor Carlos Agüero.

Attest:

JNO. B. CLARK, JR.,
Clerk.

C

48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 36.

IMPROVEMENTS IN STEAMSHIPS.

MEMORIAL

RELATING TO

INVENTIONS AND IMPROVEMENTS IN STEAMSHIPS BY CAPT. CHARLES G. LUNDBORG, FORMERLY OF THE ROYAL SWEDISH NAVY.

FEBRUARY 12, 1884.—Recommited to the Committee on American Ship-building and Ship-owning Interests and ordered to be printed.

To the Congress of the United States:

An effective navy and an adequate merchant marine are national necessities. The present condition of our Navy fills patriotic citizens with alarm and humiliation, while our merchant marine is inadequate to perform 15 per cent. of our ocean carrying trade. It is demonstrated by reliable statistics that the carrying capacity of our merchant marine has decreased in the last decade in about the same proportion that our exports and imports have increased. These startling facts have for some time challenged public attention, and they are now beginning to excite public concern.

While it is not our purpose in this memorial to discuss the causes of the present condition of our Navy and merchant marine, it may be proper, however, to revert briefly to a few facts in explanation of them. First, the diversion of the active capital of the country into enterprises of internal development; second, failure of the Government to encourage and promote, by wise and liberal legislation, the construction and navigation of an efficient and adequate merchant marine, able to compete successfully with foreign nations for the ocean carrying trade; third, the growth of a false economic doctrine, which holds that the carrying trade of the world belongs to the British because they are able to build and navigate steamships a trifle cheaper than the Americans.

The first of these causes operates to prevent the investment of American capital in shipping enterprises. The second tends to divert the energy and intelligence of American citizens from the ocean. The third encourages in our midst a powerful class who systematically antagonize every effort of enterprising citizens to remove the second cause, or to modify the consequences of the first; and the result is that we are practically without a Navy, and our foreign trade and commerce is carried in foreign bottoms. Unless we misinterpret the public opinion of this country, a crisis has been reached, and a change which will effect a remedy for this condition of things is now demanded. The only question is, What shall be the remedy? Before entering upon the solution of this question it may not be considered inappropriate here to refer to

the sound advice of some of the early statesmen of the Republic, whose views are pertinent to this subject.

Washington said in his second annual message:

> I recommend to your serious reflection how far and in what mode it may be expedient to guard against embarrassments from these contingencies [danger to our goods carried in foreign ships, by war] by such encouragement to our own navigation as will render our commerce and agriculture less dependent on foreign bottoms, which may fail us in the very moment most interesting to both of these great objects.

Madison said:

> If America should have vessels at all, she should have enough for all the purposes intended; to do all her own carrying, to form a school for seamen, laying the foundation of a navy, and to be able to support herself against the interference of foreigners.

Jefferson said:

> Our navigation involves still higher considerations. As a branch of industry, it is valuable; but as a resource of defense, essential. The carriage of our own commodities, if once established in another channel, cannot be resumed in the moment we desire. If we lose the seamen and artisans whom it now occupies, we lose the present means of marine defense, and time will be requisite to raise up others, when disgrace or losses shall bring home to our feelings the evils of having abandoned them.

Are the American people ready to heed the sound advice of these eminent statesmen and patriots? In the past, when the carrying trade of the world was performed in wooden ships, the United States held high rank among maritime nations; and the superior inventive talent, mechanical skill, and executive energy of her citizens enabled her to cope with the most powerful nations upon the high seas. It has always been a distinctive feature of American policy, both governmental and social, to encourage invention and promote innovation, and to this fact may be attributed all our triumphs upon land and sea.

From 1816 to 1840 the tonnage and value of our ocean traffic was greater in proportion to population than that of any other nation. During that period of our country's history we built faster ships and sailed them more skillfully than any other nation in the world. In the latter decades of the sailing era, nearly every important improvement in form, lines, structure, and equipment of vessels emanated from the brain of an American, and was utilized by an American shipbuilder.

When steam first came into use as a marine motor, Americans were the pioneers in its application and development. These are simple truisms of history, but they apply only to the era of wooden ships.

Up to 1860 the Americans had perfected the wooden ship. With boundless forests to supply material, with matchless genius to design, and with incomparable skill to construct, they led the world, and had not iron and steel so largely superseded wood in shipbuilding, the Americans would no doubt still hold the ascendency on the ocean.

The advent of the iron ship, however, radically altered the conditions and the abundant cheap supply of the material entering into its construction, together with the more general adoption of the steam-engine instead of sails, gave to England even greater advantages than had been previously enjoyed by the Americans in the era of the wooden ship. But while the materials of construction and the means of propulsion were undergoing these great changes, the essential conditions of shape and form of the hull remained practically the same. The sole endeavor of the English, in the prosecution of their supremacy upon the ocean, has been to build larger ships and to increase their speed, simply by the application of great engine power, without altering in any essential property their models. If we except the questionable improvement of greatly

increasing the proportion of length to breadth, the form of the ship of this period is essentially the same as it was fifty years ago, and, although great improvements have been made in almost every other branch of human pursuits, it would seem that the inventive genius of our age has here come to a stand-still. The invention of your memorialist, to which your attention is respectfully invited, is the first radical deviation, based upon scientific principles, from the prevailing ship model, and among the principles and advantages claimed for it we specify the following:

1st. The design makes it possible to combine the finest lines for high speed with great carrying capacity.

2d. The form of the aft part of the immersed hull with its submerged stern, which divides the water horizontally, permits, in the highest possible degree, great sharpness stern, or what is called "*a clean run*," which is the indispensable condition for high speed.

3d. The great width of the aft part of the ship's hull, which is a consequence of the submerged horizontal stern, affords ample room for the application of the greatest engine power compatible with the displacement.

4th. The design is eminently adapted for the use of twin screws, as the form of the submerged stern affords a perfect support to the propeller shafts. The great importance of this advantage will especially appear whenever it shall be desired to reach a very high speed, attainable only by a ship carrying engines of such great power that it cannot be economically used upon only one propeller of moderate size, or safely transmitted through one shaft, in which case it becomes necessary to divide the power upon two propellers and adopt twin screws. In a vessel of the ordinary type the propeller shaft must be hung up on brackets extending into the water, outside the ship for a considerable distance, and the difficulty of supporting and protecting shafts of very great weight in such an exposed position will be easily perceived; but this objection is entirely removed by the present design, which permits the propeller shafts to be carried all the way inside and supported firmly within the ship's hull.

5th. The propellers act constantly in solid water undisturbed by the proximity of the stern-post, rudder, and the overhanging part of the stern, as in ships of the usual model. This must cause an economy of power or a corresponding increase of speed.

6th. A vessel of this form will not roll or pitch as much as vessels of the common type, because the body of water over the projecting part of the hull will offer considerable resistance to such motion. Less pitching will also in a great measure tend to prevent "racing" by the propellers partly lifting out of the water; and this greater steadiness of the ship during its progress through the water must economize power or add to the speed.

7th. The rudder (or rudders, if two are used) may be made lighter, and have considerably less area than in ships of the ordinary kind, because the stern of the vessel, on account of its form, offers less resistance to lateral motion, thus requiring less power to swing or move it sideways. The resistance to the vessel's progress due to the rudder being proportionate to its surface, it follows also that the diminished area must lessen the resistance and tend to increase the speed.

8th. Owing to the increasing width of the hull below the load waterline, the ship will stand upright, and may be moved about or go to sea without ballast. Indeed, the more the vessel is lightened the greater becomes the stability, because the meta center rises with the greater beam much more rapidly than the center of gravity, and the same will

also, on account of the expanding side above water, take place if the ship should be loaded deeper than to the assumed load water-line. The great advantage of this property inherent to the design becomes evident from the known fact that most large ocean steamers must carry a considerable quantity of permanent ballast, the lost freight on which causes corresponding dimunition of the earnings.

9th. The use of two propellers, having their shafts effectually supported and protected within the ship's hull, must add greatly to the security against accidents at sea, such as might disable a vessel with only one propeller, or where the propeller shafts, as usual with twin screws, run outside of the ship.

10th. The arched form of the hull, with the projecting sides below water, and the general absence of any plane surface exposed to the sea, admits of very great strength of construction, and with judicious application of water-tight compartments such a vessel may be made exceedingly strong, offering the best possible security against the violence of the sea and the perils of collision.

This invention is a bold step forward, but in strict conformity with and adherence to the scientific principles of naval architecture, and it is covered by letters patent in this country and in Europe. It has been examined by leading shipbuilders in this country, who approve and commend it, as appears from their testimonials hereto attached. May it not, therefore, be assumed that if this invention possesses the merit conceded for it by the eminent shipbuilders who have examined and approved it, that its development and application by the United States Government will be the surest and most speedy means of laying a reliable foundation for an effective navy, and for a merchant marine adequate to the demands of our ocean carrying trade in the transportation of American mails, passengers, and products, which are now carried in foreign bottoms, and for which the American people pay annually to foreign ship-owners over $140,000,000?

We respectfully submit this important invention to your most favorable consideration, for such action as may seem to be wise and expedient, in the hope that it may be the means of speedily restoring the United States to her former position of power and prestige upon the high seas.

Very respectfully,

CHARLES G. LUNDBORG,
Inventor and Naval Architect.

TESTIMONIALS OF PERSONS WHO HAVE EXAMINED THE INVENTION AND THE SCIENTIFIC PRINCIPLES UPON WHICH IT IS BASED.

WASHINGTON, D. C., *October* 24, 1882.

DEAR SIR: I beg to express my congratulations in relation to the probable establishment of a line of transatlantic steamers built on your designs.

Your letters from the most eminent shipbuilders and experts in our country tend to confirm me in my ideas formed last winter, when you kindly showed me your elements of design, model, and drawings, that vessels built in accordance therewith, furnished with the usual power for the displacement, will have great speed with increased carrying capacity, and great steadiness in heavy weather. Having made a study of strength in naval construction, I feel warranted in saying that with the same thickness of material, riveting, &c., your vessels will prove unusually strong.

Very respectfully, yours,

DANIEL AMMEN,
Rear-Admiral, United States Navy.

Capt. C. G. LUNDBORG,
Late of the Royal Swedish Navy.

W. H. WEBB, 64 CEDAR STREET,
New York, October 31, 1882.

DEAR SIR: Having examined the model presented by you this day, and which you have designed for the Atlantic merchant service, I find so much in accord with my own experience and practice of former years that I do not hesitate to give it my approval.

It possesses many important advantages over the generally accepted models of ocean steamers. Its general dimensions will secure very light draught, and with fine lines, as shown in the model, and adequate power, great speed can certainly be obtained.

Also, greater stability when light; less disposition to roll at sea when loaded; greater certainty of answering the helm quickly; large carrying capacity on a light draught; greater safety and comfort at sea.

It would be a satisfaction to me to see your views embodied in a large ocean steamer, and put in practical operation, that it might be shown and *proved* that the accepted models of the day are far from right and the best.

Yours, very respectfully,

W. H. WEBB.

Capt. C. G. LUNDBORG,
Naval Constructor.

MORGAN IRON WORKS, FOOT NINTH STREET, E. R.,
JOHN ROACH & SONS, PROPRIETORS,
New York, September 18, 1882.

DEAR SIRS: I have examined the model and specifications of Capt. C. G. Lundborg's plans for Atlantic express steamships, and I consider them just what is requisite for transatlantic steamers of greater speed, greater safety, and greater comfort to passengers than has hitherto been given to the traveling public.

Yours, respectfully,

EDWARD FARRON,
Engineer and Constructor to John Roach & Sons.

Messrs. CHAS. L. WRIGHT & CO.,
51 *Broadway.*

C. & R. POILLON, SHIPBUILDERS, &c., 224 SOUTH STREET,
New York, October 30, 1882.

GENTLEMEN: Having examined the drawings and calculations of Capt. C. G. Lundborg's model of steamship for the Atlantic service, we would state that we can see no objection to anything he claims, and in our judgment his model possesses several important advantages over the common form of steamships now in use, combining fine lines for speed, great stability, and light draught.

The advantage of two propellers, acting always in solid water, is very important to obtain a high rate of speed, also as a means of safety in case of accident to the machinery. The form of model gives great stability when light, avoiding the necessity of using ballast, thus saving cargo space, trouble, and expense.

In our judgment, Captain Lundborg's plans and specifications possess all the advantages claimed by him, as they contain all the elements of success for the Atlantic service, viz, speed, safety, comfort, large carrying capacity, and light draught.

Yours, truly,

C. & R. POILLON.

Messrs. CHAS. L. WRIGHT & CO.

ROOMS OF BOARD OF TRADE OF SAN FRANCISCO.
NO. 202 MARKET STREET,
San Francisco, September 20, 1882.

MY DEAR SIR: It is now over a year since I first examined your plans and specifications for steamships on your plan, and while at Washington, six months since, I also examined your model. Consequently I may consider myself fairly acquainted with your views in this connection, and I have no hesitation in asserting that in all essential points your model for ocean steamers possesses many important advantages. *Increased buoyancy*, or, otherwise expressed, *increased carrying capacity on a lighter draught*;

stability and steadiness in a seaway; greatly increased speed, and consequent economy in fuel—these very important points are justly claimed for your model, and these control the question of success in ocean steamships.

I trust that your valuable invention may be first introduced under American colors, and I have no doubt of its complete success if applied to properly constructed steamships.

With much respect, I beg to remain, sir, your obedient servant,

WILLIAM L. MERRY,
Vice-President San Francisco Board of Trade.

Capt. C. G. LUNDBORG, *Washington, D. C.*

THE WILLIAM CRAMP & SONS'
SHIPYARD AND MACHINE SHOP,
Philadelphia, October 20, 1882.

DEAR SIR: I have to apologize for not writing you sooner, but my time is so fully occupied in superintending the building and fitting out of the two steamships here, besides three others at Chester, at Messrs. Roach and Sons' yard—*that*, I hope, will partially plead my excuse.

About ten days ago I had finished extended and full investigation and calculations of your design. I do not think I left one point that I did not fully go into, and the result is that I fully indorse Captain Merry's and others' views of your plans and designs for an ocean steamship. I think it unnecessary to go into dry details or forward you my calculations, as you know, better than I can tell you, the results. I looked for faults, and have failed to find them, and I now add my testimony for what it is worth as to the result of *actual investigation into the scientific pinniples involved in your designs.*

Again apologizing for the delay, I am, yours, truly,

J. M. LACHLAN.

Captain LUNDBORG.

NEW YORK, *October* 20, 1882.

MY DEAR SIRS: The design of an ocean steamship made by Capt. C. G. Lundborg, for the Atlantic Express Steamship Company of New York City, presents much that is novel, and after a thorough examination and analysis of its principal features, its fine lines, combined with great stability, and the capacity of the hull for the introduction of a much greater amount of propelling power than is now afloat, we unhesitatingly assert herewith that Captain Lundborg's ship must prove faster, and at the same time steadier and more profitable, than any other vessel of similar dimensions or capacity built on the prevailing type of model, and propelled by a single screw propeller wheel.

Both in the abstract and detail his plans are in the highest degree practical, when viewed in the light of the well-known principles of steam naval architecture.

It is beyond dispute that the maximum efficiency of the single-screw propelling wheel has been already reached in sea-going steamers. More propelling power, and its consequent speed, can be achieved only by the use of twin screws, and this feature in Captain Lundborg's plan makes its superiority obvious to us.

We remain, respectfully, yours,

NATHANIEL MCKAY,
CORNELIUS W. MCKAY,
Naval Architects.

Messrs. CHARLES L. WRIGHT & CO., *New York.*

[Opinion of the London Engineer of June 24, 1881.]

LUNDBORG'S HIGH SPEED STEAMSHIPS.

The proposals which have recently been put forward for the construction of a fleet of high-speed Atlantic steamers, the launch of the City of Rome, the building of gigantic ships by the Guion and Cunard Companies, all point the same way, and indicate the existence of a desire to place England and America virtually yet closer together than they are now. In certain respects the problem to be solved is very simple. Most of the conditions to be fulfilled are perfectly understood. An average speed of at least twenty miles an hour must be maintained incessantly while a storm-swept ocean, 3,000 miles broad, is being traversed. It is known that there is no pos-

sibility of doing this with vessels of less than 5,000 tons displacement, and it is nearly certain that much more will be required. An average speed of 20 miles means that a higher velocity than this must be attained now and then when wind and sea are not dead against the ship. Thus it comes to pass that the express Atlantic steamer of the future must be a vessel of enormous engine power. We have already pointed out the great difficulties that stand in the way of utilizing 14,000 or 15,000 indicated horse-power at sea. It will be readily conceded that although the conditions of success are, as we have said, known, the means of securing these conditions have not been settled. It is evident, however, that it is of the utmost importance that the resistance of the ship should be as small as possible. Now, the late Mr. Froude taught the world a lesson which has often been misunderstood. He pointed out that the form of a ship's hull had little or no effect on the power required to propel her, and in saying that he was quite right in one sense, but he did not stop there. He added that eddy making was the great source of resistance, and eddy making depends very much indeed on the shape of a hull. To eddies and skin friction the whole, or very nearly the whole, resistance of a ship may be attributed, but these are both largely dependent on the shape of a ship's hull. Now, it is not perhaps too much to say that no further progress is possible in the direction of reducing the resistance of ships so long as we adhere to existing models. The London and Northwestern Railway Company's Holyhead steamer Violet is probably at this moment the fastest steamship in the world. She has attained a velocity not much less than that of torpedo boats, but no express Atlantic steamer could be built like her. The Violet is a paddle boat, and what will suit paddles will not answer for screws. A new departure is necessary.

We illustrate at page 461 a design prepared by Capt. C. G. Lundborg, of Sweden, a naval architect, and we give prominence to this design, because it appears to us to be full of promise. It has been argued that the design is not a good one for a cargo steamer, and we concede at once that it is not worth while to build a steamer of this type to attain a speed of eight or nine knots. Our readers, we must ask to bear in mind, have before them a design for an Atlantic passenger steamer, which, while affording ample space for passengers and valuable cargo, has been prepared with the primary object of attaining a velocity of twenty to twenty-one knots an hour, with a comparatively moderate expenditure of power. Our engravings show the form of the ship so fully that little or no description of any kind is necessary. It will be seen that the prominent idea involved is that of making the main body of the ship divide the water horizontally instead of vertically. It will perhaps be conceded without much hesitation that by adopting this system of construction it becomes possible to build a ship of the greatest capacity for a given draught—an advantage which speaks for itself. But besides this it is also evident that this ship of shallow draught and great capacity can have admirable lines. In other words, her resistance may be reduced to a minimum. The principle admits of the naval architect imparting to his ship a splendid clean run aft, and the screws can be carried far astern and yet be perfectly supported. The advantages to be derived from thus placing the screws far astern have been insisted on by the late Mr. Froude. It will also be seen that no scheme has ever before been put forward which is so perfectly adapted to the use of twin screws.

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The great height of the metacenter above the center of gravity of the ship would safely permit yet another deck to be added, even with the unusual height of more than 9 feet between the decks, thus largely increasing the space and giving room for a much greater number of passengers.

The projection of the hull below water will go far to secure immunity from rolling, and presents no difficulties of construction which cannot easily be overcome, while it will tend to give a strong ship as well as one which will be fast.

In conclusion, we may point out that we have in Captain Lundborg's design one which gives a ship with exceedingly fine lines and the smallest possible amount of what has been termed by Rankine "augmented surface," whenever the size of the ship is such that the draught can be about half the beam. Captain Lundborg's patents have only been completed within the last two months, but his designs have been very favorably received by several eminent authorities, both in this country and the United States. Captain Lundborg's designs are not only the result of mathematical investigation, but of long and skillfully-conducted experiments, which gave, without any exception, results always in favor of Captain Lundborg's model. We trust that the merits of the design will soon be brought to a practical test by the construction of a steamer of moderate size. It is impossible to overrate the importance of the problem which we dare to think Captain Lundborg has gone some way toward solving.

REMARKS EXPLANATORY OF THE INVENTION.

(With drawings.)

In presenting this subject, which is so purely technical in its character, I realize the difficulty in making myself fully understood. I will endeavor, however, to explain as clearly as possible the origin, development, and principles of my invention for ocean steamships and other vessels, set forth very briefly in the memorial before your honorable committee.

During many years of active life at sea I had abundant opportunity to observe many curious facts and phenomena relating to the motion of vessels, the nature of which could not be explained satisfactorily upon the generally accepted knowledge and theories of the laws of resistance governing bodies borne upon and moving through the water. By constant observation of these phenomena I was soon impressed with the belief that our knowledge of the laws of resistance was quite superficial, if not entirely erroneous; and, therefore, I at once entered upon this field of investigation, to which I devoted myself almost exclusively, availing myself of the works of the ablest men before me, who had treated upon this subject.

I was not unacquainted with the previous labors of several of my countrymen, such as the celebrated Chapman, who justly holds, in scientific naval architecture, a rank equal to that of Newton in astronomy, and after him Lagerhjelm and Forselles. Nor was I altogether unfamiliar with the researches of Euler, D'Alembert, Condorcet, and De Borda, the names of whom will illumine the pages of science for all time. But these great men, excepting Chapman and, to some extent, Euler, did not especially direct their genius toward practical improvements in shipbuilding, and I could, therefore, not avoid thinking that very much yet remained to be learned, and that great improvements in naval architecture, if approached under the guidance of some scientific knowledge, could and ought to be made. This was many years ago, before the investigations of Rankine and Froude. But what was true then is true now, although perhaps in a modified degree. It cannot possibly be otherwise, for surely we are, with the style of ship to-day traversing the ocean, just about as far from perfection as we were fifty years ago with the mail coach when compared with the palace car of to-day. My first step in the pathway thus indicated was naturally in the way of experiments, which might perhaps seem presumptuous and unnecessary in view of the great achievements of my illustrious predecessors. But a natural taste for this kind of scientific research prompted me to pursue the investigation. Mr. Froude was then unknown to the world, as this was before he became famous through his towing experiments with the Greyhound and his investigations of "friction resistance," together with the scientific deductions derived therefrom. Nor had I before this any opportunity to become acquainted with Colonel Beaufoy's experiments, which I much regret, because some knowledge of them would probably

have given me great assistance and saved much valuable time by pointing out, almost at the outset, the right direction for my labor.

The object of my first experiments was to ascertain whether there was any difference in the resistance to a body floating at the surface of the water and one wholly submerged. I had reason to believe there was a difference, as that would help to explain many phenomena otherwise inexplicable, and I very soon came to a certainty upon that point beyond any possibility of a doubt, as proved by numerous experiments.

An example of these experiments and a short description of the manner in which they were conducted will give a general idea of the method pursued.

The experiments were made in a tank 200 feet long, 6 feet wide, and 3 feet deep, built of plank, and nearly filled with water. In this tank the bodies were towed at various speeds, floating or submerged to different depths. About 6 inches above the surface of the water, over the middle of the tank, there was a small carriage-way with rails 4 inches apart for a little wagon to travel upon. The frame of the wagon was rectangular, 2.5 feet long, and on the inside of its two longitudinal sides, parallel to the track, there was another smaller truck, which had room to move only a few inches. On the hind axle of this inner truck was fixed a vertical steel bar, one inch wide, thin and sharp at both edges like the blade of a knife, reaching down into a loop attached to the bow of the body to be tried. This vertical bar was adjustable, sliding up and down in a groove on the axle, and thus allowed to reach the loop aforesaid without touching the water when the body floated on the surface, but reaching down into the water sufficiently deep to take hold of the body when the latter was submerged. A dynamometer of simple construction, indicating accurately the pressure to within the one hundredth part of a pound, was fixed on the frame in front of the inner small truck, to which it could be connected, so that a force tending to drag this truck, with its descending bar, away from the dynamometer was shown by the latter and registered by a pencil attached to the index on a strip of paper drawn across between two small rollers, acted upon and set in motion by means of a string around a small pulley on the axle. Any variation in the pressure on the dynamometer would thus show itself by a wave-line on the slip of paper, while, when the pressure was constant, the line would be straight. The body in the water, held by the descending bar, caused by its resistance the inner truck to recede as much as permitted by the tension of the spring, the amount of resistance being indicated by the dynamometer, as before mentioned.

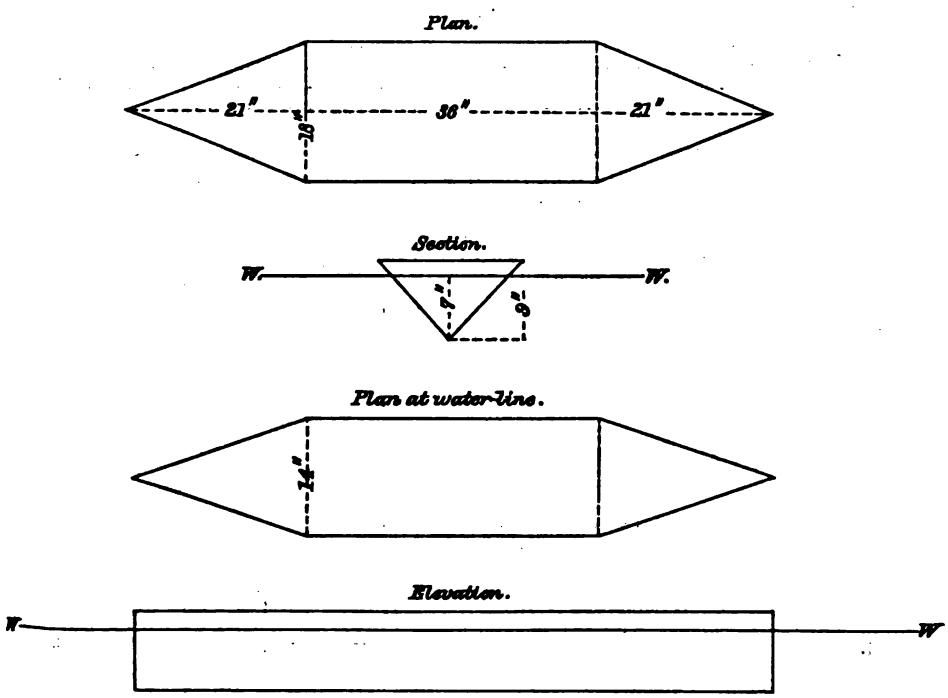
It will be seen that in this way no correction was needed for the power required to move the larger truck on the rails, as the resistance to the body in the water, due to its velocity, was obtained independently of the force needed to move the carriage on the rails, the velocity of which was, of course, the same as that of the body towed through the water.

The motion was obtained by a small water-wheel, acted upon by a jet of water from a pipe descending from a tank placed above, nearly filled with water, the level of which was maintained at the same height by an inflow of water, and the flow through the descending pipe to the wheel was thus subject to an unvarying pressure.

The flow of the water being regulated by a cock, it was easy to impart a uniform motion to the wheel and to its axle, to which cylinders of various diameters were attached, according to the speed desired, around which a fine cord of silk connected with the frame carriage on the rails, *before described.*

A few preliminary trials with the body attached to the descending bar, but not to the dynamometer, showed the flow of water necessary to produce the desired speed, and when the velocity was found to be uniform the dynamometer was attached and the resistance noted. In order to avoid any sudden jerk in the beginning of the experiment the water was let on gradually, until the required flow and a uniform speed was reached, which occurred generally within 20 or 30 feet from the start. In this way usually ten and sometimes twenty runs were made with the same velocity, and a mean taken of the result.

The resistance thus obtained by each run, varied generally very little, the difference seldom amounting to more than 1 or 2 per cent. of the whole resistance.



In the experiment referred to as an example there were two bodies used, of equal form and dimensions, made of white pine and painted. As will be seen by the sketch, the length of the bodies was 78 inches= 6.5 feet; greatest breadth 18, and depth 9 inches. The section was that of a right angled triangle. When put into the water the draft was 7 inches, thus giving 2 inches of "freeboard"; the greatest breadth in the water-line=14 inches; area of the water-plane, 798 square inches (=5.542 square feet); displacement, 2793 cubic inches and immersed surface=1379.1 square inches=9.576 square feet.

The experiments gave the following mean resistance at velocities of 1, 2, 3, 4, and 5 feet per second, respectively:

	Pounds.
At 1 foot per second	0.1274
At 2 feet per second	0.5247
At 3 feet per second	1.2116
At 4 feet per second	2.2096
At 5 feet per second	3.5401

The other body being adjusted to the same draft, and experiments with it made in similar manner, gave the following results:

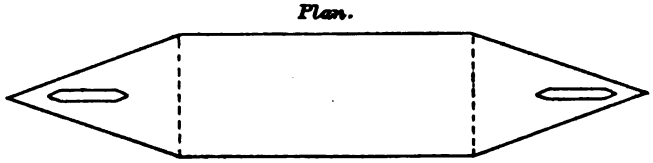
Resistance:	Pounds.
At 1 foot velocity	0.1302
At 2 feet velocity	0.5380
At 3 feet velocity	1.2245
At 4 feet velocity	2.2286
At 5 feet velocity	3.5657

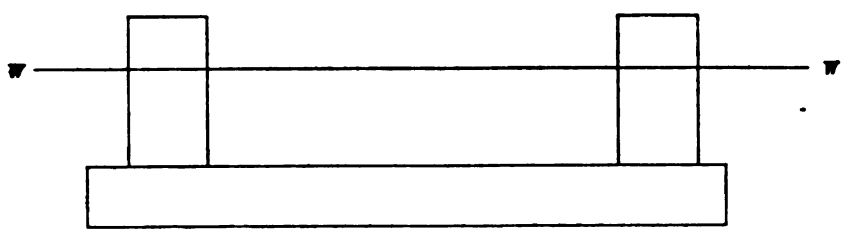
It will be seen that the latter body had a slightly larger resistance than the first one, owing, probably, to some inappreciable inequality in form or size; but the difference is very small, the mean being—

Resistance:	Pounds.
For 1 foot velocity	0.1288
For 2 feet velocity	0.5313
For 3 feet velocity	1.2180
For 4 feet velocity	2.2191
For 5 feet velocity	3.5529

Both bodies were then cut down to the water line, or, in other words, all the wood forming the "freeboard" was planed away. At each end of this new upper surface there were fixed, as shown in accompanying sketch, an upright board, 10 inches wide and 1 inch thick, sharpened at the edges so as to cut easily through the water. The body was weighted down by lead in its lower part, so as to have its upper surface just even with the water, in which state the displacement and immersed surface was exactly the same as in the former experiment.

Plan.





Elevation.

More weight being now added, the body sunk below the surfce, supported only by the buoyancy of the two upright boards; and by the means of small pieces of lead, placed on the top of the boards, the body was submerged with its upper surface one foot below the water and adjusted in a perfectly horizontal position. In this state there was no considerable alteration in the displacement, only by the additional cubic contents of the immersed part of the boards; but the immersed or wetted surface was greatly increased by the additional upper surface of

the body, and also by the surface of the upright boards. The immersed surface was then:

	Square inches.
Surface as before	1379.1
Upper surface	798.0
Surface of the two boards	481.9
Total immersed surface	2659.0

Equal to 18.465 square feet.

The immersed surface being thus increased 1279.9 square inches, or 8.888 square feet, it follows that the resistance should be increased by the friction owing to that increase of surface and by the slight additional direct resistance due to the boards.

Assuming, then, the friction for 1 square foot of surface, at the velocity of 1 foot per second, to be 0.0038 pounds, in accordance with experiments of the late Mr. Froude, and adhering to the usual expression that it varies as the square of the velocity, we have:

	Pounds.
Friction on 8.888 square feet, at 1 foot velocity per second	0.0338
Friction on 8.888 square feet, at 2 feet velocity per second	0.1351
Friction on 8.888 square feet, at 3 feet velocity per second	0.3040
Friction on 8.888 square feet, at 4 feet velocity per second	0.5404
Friction on 8.888 square feet, at 5 feet velocity per second	0.8444

The resistance of the two upright boards was obtained by a separate set of experiments, and ascertained to be:

	Pounds.
For each board at 1 foot velocity per second	0.0183
For each board at 2 feet velocity per second	0.0738
For each board at 3 feet velocity per second	0.1691
For each board at 4 feet velocity per second	0.3049
For each board at 5 feet velocity per second	0.4844

But from this the friction should be deducted, as it is included in that for the 8.888 square feet above, namely:

	Pounds.
Friction on 240.95 square inches = 1.673 square feet, at 1 foot velocity	0.0063
Friction on 240.95 square inches = 1.673 square feet, at 2 feet velocity	0.0252
Friction on 240.95 square inches = 1.673 square feet, at 3 feet velocity	0.0567
Friction on 240.95 square inches = 1.673 square feet, at 4 feet velocity	0.1008
Friction on 240.95 square inches = 1.673 square feet, at 5 feet velocity	0.1575

Which leaves the resistance (less friction) for each board:

	Pounds.
At 1 foot velocity	0.0120
At 2 feet velocity	0.0486
At 3 feet velocity	0.1124
At 4 feet velocity	0.2041
At 5 feet velocity	0.3269

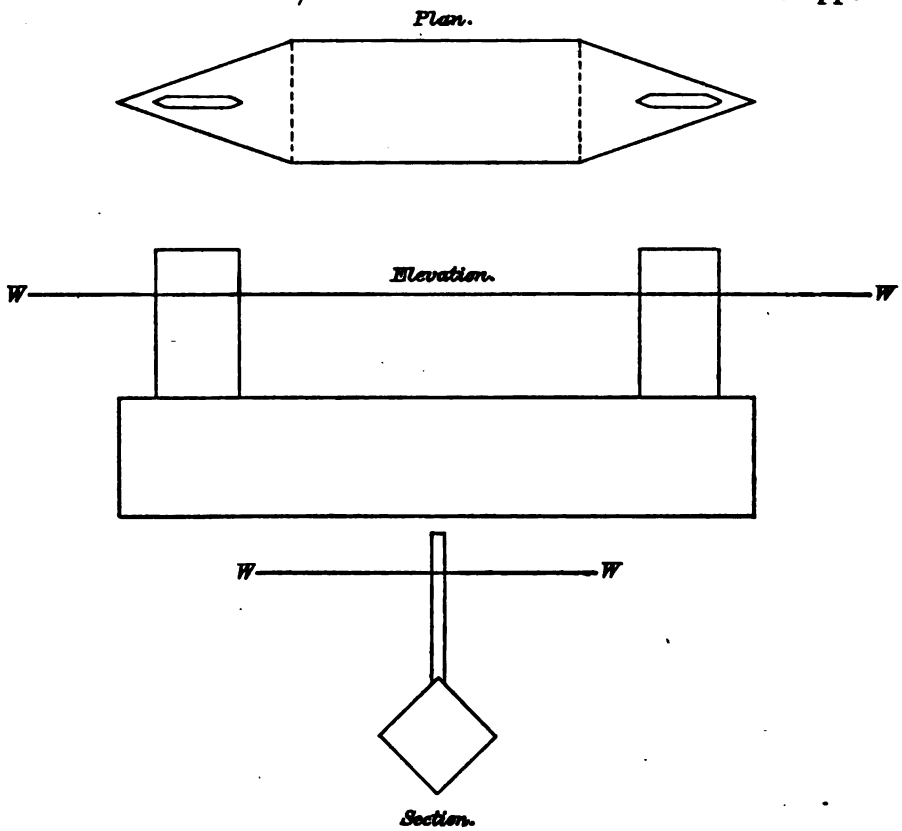
The resistance of the submerged body should, therefore, be as follows:

	Speed in feet per second.				
	1.	2.	3.	4.	5.
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Resistance as in first experiment	0.1288	0.5313	1.2180	2.2191	3.5529
Friction on additional 8.888 square feet	0.0338	0.1351	0.3040	0.5404	0.8444
Resistance of the two boards (less friction)	0.0240	0.0972	0.2248	0.4082	0.6538
Total calculated resistance	0.1866	0.7636	1.7468	3.1677	5.0511

The experiment, however, proved the actual resistance to be:

	Pounds.
For 1 foot velocity per second	0.1801
For 2 feet velocity per second	0.7182
For 3 feet velocity per second	1.6094
For 4 feet velocity per second	2.8470
For 5 feet velocity per second	4.4211

The two bodies were then joined together along their upper surface, thus making one body together, the section of which formed a square, as shown in the sketch, and the float-boards were fixed in the upper



angle of the body. The displacement, as well as the immersed surface, was in this case exactly twice that of the body in the first experiment, the displacement being = 5586 cubic inches and the surface = 2758 square inches = 19.152 square feet. It follows, then, that if the resistance of this double body did not change by its being submerged, its resistance should be twice that of the body in the first experiment, plus the resistance of the two boards:

	Speed in feet per second.				
	1.	2.	3.	4.	5.
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Resistance by first experiment (twice)	0. 2576	1. 0626	2. 4360	4. 4382	7. 1058
Resistance of the two boards	0. 0366	0. 1472	0. 3382	0. 6098	0. 9688
Total calculated resistance	0. 2942	1. 2098	2. 7742	5. 0480	8. 0746

But the actual resistance, as found by the experiment, was:

At 1 foot velocity per second 0.2872
At 2 feet velocity per second 1.1465
At 3 feet velocity per second 2.5680
At 4 feet velocity per second 4.5409
At 5 feet velocity per second 7.0512

The result of these three experiments may, accordingly, be presented thus:

	Speed in feet per second.				
	1.	2.	3.	4.	5.
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Mean resistance of the bodies at the surface	0.1302	0.5380	1.2245	2.2286	3.5657
Calculated resistance of the body submerged 1 foot below the surface	0.1866	0.7636	1.7468	3.1677	5.0511
Actual resistance by the experiment	0.1801	0.7182	1.6094	2.8470	4.4211
Difference	0.0065	0.0454	0.1374	0.3207	0.6300
Calculated resistance of the two bodes joined together, at 1 foot below the surface	0.2942	1.2098	2.7742	5.0480	8.0746
Actual resistance, by the experiment	0.2872	1.1465	2.5680	4.5409	7.0512
Difference	0.0070	0.0633	0.2062	0.5071	1.0234

It will be seen that the difference in resistance below and at the surface amounted to over 12 per cent. when the velocity was 5 feet per second.

It should, however, be observed that, in calculating the friction as above, it is assumed to vary as the square of the velocity; but this ratio is too high, as proved by the experiments of the late Mr. Froude and others, the index of power expressing the law of friction for a surface of that kind and length being 1.856. With this correction, we shall have:

	Speed in feet per second.				
	1.	2.	3.	4.	5.
	Pounds	*Pounds*	*Pounds*	*Pounds*	*Pounds*
Resistance of the body at the surface, by experiment as before	0.1288	0.5313	1.2180	2.2191	3.5529
Friction on 8.888 square feet according to the index of power 1.856	0.0338	0.1224	0.2063	0.4429	0.6762
Resistance of the two boards, less friction, at the above index	0.0240	0.1020	0.2772	0.4448	0.7190
Calculated total resistance below the surface	0.1866	0.7537	1.7015	3.1068	4.9421
Actual resistance	0.1801	0.7182	1.6094	2.8470	4.4211
Difference	0.0065	0.0355	0.0921	0.2598	0.5210

The calculated resistance thus corrected, at 5 feet velocity per second, being 4.9421, while the actual resistance was only 4.4211, shows yet a difference of over 10 per cent. in favor of the submerged body.

The position of the float boards was then changed to one of the side angles, thus altering the position of the body so that the wedges in both ends became horizontal instead of vertical. The experiment gave then the following result:

Resistance at 1 foot velocity per second 0.2859
Resistance at 2 feet velocity per second 1.1394
Resistance at 3 feet velocity per second 2.5472
Resistance at 4 feet velocity per second 4.4605
Resistance at 5 feet velocity per second 6.9353

The resistance in this case was, as will be observed, less than in the former experiment when the wedges at the ends were vertical. The bodies being both submerged, there is no apparent reason for this remarkable difference, but the fact was proved by many subsequent experiments with bodies of different form and size. There was in this respect but little difference in the resistance, whether the wedge in the forward end of the body was vertical or horizontal, the angle of incidence being equal; but the resistance was always considerably diminished whenever the stern wedge was in a horizontal position. With two bodies of the same displacement and surface, and alike in every respect, except that the stern wedge in one was vertical while horizontal in the other, the difference in the resistance at a speed of 6 feet per second varied from 2 to 5 per cent. in favor of a flat stern.

Having thus shown the manner in which these experiments were conducted, I will not consume more time by citing further examples. A great number of experiments were made with bodies varying greatly in form as well as in size, and they gave, without exception, results from which no other conclusion could be drawn, than that the resistance of the water is considerably greater at the surface than deeper down.

Inspection of the example given will also show that the resistance at the surface increases at a higher ratio than as the square of the velocity, and also that the ratio increases with the speed. Thus it will be seen that the index of power expressing the law of resistance for the body at the surface, was:

For a velocity between 1 and 2 feet per second	2.0444
For a velocity between 2 and 3 feet per second	2.0450
For a velocity between 3 and 4 feet per second	2.0852
For a velocity between 4 and 5 feet per second	2.1093

But the resistance of the body submerged below the surface increases at a lower ratio than the square of the velocity, the index of power being for the submerged double body:

For velocity between 1 and 2 feet per second	1.9970
For velocity between 2 and 3 feet per second	1.9909
For velocity between 3 and 4 feet per second	1.9813
For velocity between 4 and 5 feet per second	1.9722

It is not my purpose to attempt an investigation as to whether the facts here set forth may be satisfactorily explained by the wave theory or any other hypothesis. The important truth once established, that the resistance is greater at the surface than below it, the question naturally arose how to utilize and take advantage of such knowledge.

The resistance being greatest at the surface, or in the load water-line, where the body of water is ruptured by the cut-water and bow of the ship, clearly suggested the idea that the ship ought to be designed so as to diminish that resistance as much as possible, and this could only be done in one way, namely, by increasing the sharpness, or diminishing the angle of incidence at that point.

But the practical application of this principle met, at the outset, with formidable obstacles. The ordinary type of vessel presents in every case the most obtuse angle of incidence, or the "bluffest" part of its bow, just at the surface of the water, where the resistance is greatest, while the sharpness, and the consequent facility for dividing the fluid, increases with the depth below the surface, where the resistance is the least. Increased sharpness at the load water-line, implied with the common type of ship, necessarily diminished displacement, and it soon became evident that a solution of the problem, how to conciliate the indispensable qualities of a sea-going ship, such as buoyancy, stability, obe-

dience to the helm, carrying capacity and easy behavior in a sea way, with a greatly diminished angle of obliquity at the surface of the water, demanded an entirely novel form of the hull, and a design altogether different from the common notions of shipbuilding. Great sharpness at the water-line without diminished displacement could only be possible by increasing the volume of the lower part of the hull in order to allow a narrow water-line, permitting a sharp entrance and run at the surface.

The primary object being to design a vessel of very high speed, greater than could be obtained by the ordinary style of ship, naturally suggested the use of twin screws, as the division of power upon two propellers instead of one, would make it possible to apply a far greater aggregate propelling power, than could be economically used and transmitted through one propeller shaft.

The obstacles in the way of attaining a speed of 20 knots by a sea-going ship of the ordinary type, with only one propeller, are so great as to make it virtually impracticable. The greatest power hitherto transmitted through one shaft is about 12000 indicated horse-power, but a much greater power would be needed for the ocean steamer designed to reach a speed of 20 knots. The frequent breaking of the propeller shafts of large steamers with powerful engines tends to prove that the limit of safety for the single propeller shaft has been reached; and hence the absolute necessity of two propellers, each taking up one-half of the great power required for high speeds, becomes more and more evident. The marine engine of the present day, immensely improved as it has been during the last decade, is yet of so great weight in comparison with the power developed, that a vessel must be of large size to carry the heavy load of machinery necessary to propel it at a high rate of speed. It is clear that, if it should be made practicable to use the locomotive type of boiler in ocean steamers, as well as in steam-launches and torpedo-boats, the weight of machinery would be greatly reduced. But even if such a desirable improvement should occur, it would not affect the size and weight of the propeller shaft, through which the power from the engine must be transmitted, and therefore cause no modification of the necessity for twin screws in ships designed for high speed.

A serious drawback against the application of twin screws, with great power, to ships of ordinary form exists, however, in the fact that the shafts must, for a long distance, be supported on struts in the water outside the ship; objection of little weight when the shafts are slender and light, but of great importance when they must be large and heavy, say 24 inches in diameter. In that case, the length of the shaft thus hung up outside would be, in a large ship with fine run, about 75 feet, and its weight would reach some 40 or 50 tons; and the practical difficulty in the way of firmly supporting such a heavy load in this exposed position will readily be understood.

During the progress of the investigations which finally led to the design now presented, it soon became evident that the adoption of the principle of having the greatest sharpness of the ship at the surface of the water, as a basis for the design, favored in an eminent degree the use of two propellers, the shafts of which could be firmly supported within the ship's hull, thus avoiding the use of struts and brackets in the water outside.

The solution of the problem, how to design a vessel capable of the highest speed and possessing at the same time, in an eminent degree, all the good qualities of a safe and comfortable ocean ship (sea-boat), brought also along with it, as a necessary corrolarium, the union of very

fine lines, suitable for great speed, with large carrying capacity, on a moderate draught of water.

During the many years that these researches have lasted there were, as may be imagined, many successive steps, and a great number of designs made before the present one was reached. A great number of models, according to their different designs, were made and experiments with them had, in comparison with others of the ordinary type. These experiments were made in the tank and with the apparatus already described, the results of which proved that the design was founded upon correct principles. A model according to the present design, considerably larger than these now presented, was also tried, the resistance curve of which is shown herewith. The experiments were conducted in conformity with the system of the late Mr. Froude, and a brief explanation of that system may, therefore, not be inappropriate.

Mr. Froude, who during many years conducted experiments for the British Admiralty, and to whom naval architecture, as a science, owes the greatest debt, was the first who showed how experiments with a small model in a tank could be made to give data from which reliable conclusions might be drawn as to the actual performance of the ship itself. The model being an exact fac-simile of the ship's hull and made according to an accurate design of the vessel, is in the experiment drawn through the water in the tank at various speeds and the resistance of the water noted, and also any phenomena that may become apparent during the progress of the model through the water, such as creating waves, rising or dipping of the bow or stern, &c., all of which indicate what will actually take place with the ship itself at a *corresponding* speed in smooth water.

It is clear that during the experiment the model cannot be tried at the actual speed of the ship, but at what is called *corresponding speeds*, which means that the actual speed of the ship in knots per hour has its comparative speed for the model in feet per minute.

These corresponding speeds are calculated according to the analogy

$$L : l = V^2 : v^2,$$

in which L is the length of the ship, l the length of the model, V the speed of the ship, and v the corresponding speed of the model, both in feet per minute. The analogy expressed in words will be: The length of the ship is to the length of the model as the square of their respective speeds; or the speed of the ship is to the speed of the model as the square root of their respective lengths.

From the above analogy we obtain the equations:

$$\frac{L}{l} = \frac{V^2}{v^2} \text{ and } L\,v^2 = l\,V^2,$$

whence:

$$v^2 = V^2 \frac{l}{L} \text{ and } v = V\sqrt{\frac{l}{L}}.$$

From this last equation the corresponding speeds of the model are obtained. If, for an example, the length of the ship is 360 feet, the length of the model 10 feet, and the speed of the ship 12 knots ($=12 \times 101.33 = 1216$ feet per minute) the corresponding speed will be:

$$1216\sqrt{\frac{10}{360}} = 1216\sqrt{\frac{1}{36}} = \frac{1216}{6} = 202.67 \text{ feet.}$$

The resistance of the model at any speed being ascertained by the experiment, the actual resistance of the ship at the corresponding speed is found by the following rule: Multiply the cube of the quotient, obtained by dividing the length of the ship by the length of the model, by the resistance of the latter in pounds, and the product is the resistance of the ship in pounds. Or, in algebraic language, calling the respective lengths of the ship and model L and l as before, the resistance of the model r and the resistance of the ship R,

$$R=r\left(\frac{L}{l}\right)^3.$$

These two equations: $\frac{L}{l}=\frac{V^2}{v^2}$ and $R=r\left(\frac{L}{l}\right)^3$, express Mr. Froude's law for model experiments.

The effective horse-power required to propel the ship at any speed is easily found by multiplying the resistance of the ship by the speed in feet per minute and dividing the product by 33000; or by the equation

$$\text{E. H. P.}=\frac{RV}{33000}.$$

Model experiments conducted according to Mr. Froude's system consist therefore in ascertaining by experiments in a tank the resistance of a model of the ship at "corresponding speeds," and calculating the resistance and effective horse-power required to propel the vessel at various speeds according to the above equations.

It will be observed that in conducting such experiments the speed of the model should be regulated so as to perform the precise number of feet per minute at a perfectly uniform rate, according to the calculated corresponding speed table. With delicate and well-adapted machinery this can easily be accurately done; but with less perfect arrangements it may sometimes happen that the model will be found to have a uniform rate of speed although the number of feet run per minute may not be exactly as required to correspond to the precise number of knots for the ship. It is clear, however, that there is no absolute necessity for being confined to the precise number of feet per minute, as equally reliable results will be obtained by observing the resistance of the model at any uniform speed in the vicinity of the desired velocity. The difference in that case would only be, that the result obtained from the experiment, or the accordingly calculated resistance and effective horse-power would be that for the ship going at a speed to which the actual number of feet made by the model during the experiment, would be the corresponding speed. The speed of the ship corresponding to that of the model will easily be found from the equation

$$\frac{L}{l}=\frac{V^2}{v^2},$$

whence:

$$V^2=v^2\frac{L}{l} \text{ and } V=v\sqrt{\frac{L}{l}}.$$

By examining the above equations it will be seen Mr. Froude's system for tank experiments with models is in accordance with the assumption proved by experience to be nearly correct within moderate speeds for vessels of the ordinary type, namely, that the resistance of the water

increases as the square of the velocity; and that for two vessels of the same form, but different displacement, the resistance per square foot of immersed or "wetted" surface for equal speeds is equal, and that therefore at equal speed the total resistance is proportionate directly to the immersed surface. In order to show this more clearly, let

L represent the length of the ship as before.
l, the length of the model.
A, the immersed area of the ship.
a, the immersed area of the model.
V, the speed of the ship.
v, the speed of the model.
r, the resistance of the model at v speed.
r^1, the resistance of the model at V speed.
R, the resistance of the ship at V speed.

Then the resistance per square foot of the immersed surface of the model at v speed$=\frac{r}{a}$, and at V speed$=\frac{r^1}{a}$. According to the accepted law of the resistance being proportionate to the square of the velocity, we have then:

$$r : r^1 = v^2 : V^2, \text{ and } r^1 = \frac{r\,V^2}{v^2}.$$

The resistance per square foot of the model at V speed is therefore$=\frac{r\,V^2}{a\,v^2}$; and as the resistance of the ship and model at equal speeds are to each other in the same proportion as their immersed surfaces, it follows that

$$r^1 : R = a : A,$$

whence:

$$r^1 = \frac{a\,R}{A}.$$

From the two values of r^1 we have, then,

$$\frac{r\,V^2}{v^2} = \frac{a\,R}{A}; \qquad \frac{A\,r\,V^2}{v^2} = a\,R;$$

and

$$R = \frac{A r\,V^2}{a\,v^2} = \frac{A}{a} \cdot \frac{r\,V^2}{v^2}.$$

But similar surfaces are to each other as the square of their respective dimensions, and, consequently

$$A : a = L^2 : l^2,$$

or,

$$\frac{A}{a} = \frac{L^2}{l^2};$$

and substituting this value of $\frac{A}{a}$ in the foregoing equation, we have:

$$R = \frac{L^2}{l^2} \cdot \frac{r V^2}{v^2}.$$

If, now, the size of the model were such that the proportion of its dimensions to those of the ship were as $v^2 : V^2$, or $l : L = v^2 : V^2$, whence $\frac{L}{l} = \frac{V^2}{v^2}$, and substituting $\frac{L}{l}$ for $\frac{V^2}{v^2}$ in the above equation, we obtain:

$$R = \frac{L^2}{l^2} \cdot \frac{rL}{l},$$

and

$$R = r \cdot \frac{L^3}{l^3} = r\left(\frac{L}{l}\right)^3,$$

as in Mr. Froude's law.

Pursuing the subject further, in order to find the relation that the resistance and velocity of the model and ship bear to their respective displacements, according to Froude's law, and calling the displacement of the model d, and that of the ship D, and noting the equations:

$$R = r\left(\frac{L}{l}\right)^3 \text{ and } \frac{L}{l} = \frac{V^2}{v^2},$$

we know that the displacements are to each other as the cube of the dimensions, or

$$d : D = l^3 : L^3,$$

whence

$$\frac{D}{d} = \frac{L^3}{l^3} = \left(\frac{L}{l}\right)^3,$$

and substituting $\frac{D}{d}$ for $\frac{L^3}{l^3}$ in the above equation we obtain

$$R = r\frac{D}{d} \text{ and } \frac{R}{r} = \frac{D}{d},$$

which, expressed in words, will be:

The resistance of the model is to that of the ship directly as their respective displacements.

With regard to the speed, we have, as before $\frac{D}{d} = \frac{L^3}{l^3}$; but $\frac{L}{l} = \frac{V^2}{v^2}$, and by cubing this last equation $\frac{L^3}{l^3} = \frac{V^6}{v^6}$; and inserting this value of $\frac{L^3}{l^3}$ we obtain:

$$\frac{D}{d} = \frac{R}{r} = \frac{V^6}{v^6}, \text{ and } \frac{\sqrt[6]{D}}{\sqrt[6]{d}} = \frac{V}{v},$$

or:

The speed of the model is to that of the ship as the sixth root of their respective displacements.

But although, as now shown, the results from tank experiments upon Mr. Froude's plan, are derived from calculations based upon the assumption that the resistance of the water increases as the square of the velocity, it will be found by examining the resistance curve of any such experiment, that the resistance of the model increases in a ratio, the

exponent of which, although at small velocities generally less than 2, grows larger as the speed increases and soon becomes greater than that figure, rising sometimes to 3 and over, denoting that the ratio of augmentation is not as the square, but rather as the cube of the speed. It may be concluded, therefore, that if experiments with a model could be carried on up to the actual corresponding speed of the ship, the resistance per square foot of the immersed surface would probably be found to be much greater than calculated according to the duplicate ratio. But if from this reason the resistance calculated in conformity with Mr. Froude's law would seem to be too low, it should, on the other hand, be observed that during the experiment the model is immersed to but little depth, and must, therefore, with its whole body in or near the surface, encounter in proportion greater resistance than if more deeply immersed. It is besides a well known fact, proved by the experiments by Colonel Beaufoy, Mr. Froude, and others, that the surface friction of the water increases in a less ratio than the square of the velocity, and also that the ratio decreases with augmented speed.

As consequently elements of various nature enter into the problem of experiments with ship models, it would seem as if the results obtained from such experiments could not be very reliable. The genius of Mr. Froude, however, found a practical way out of the difficulties, which, if not strictly correct, yet brings the conclusions drawn from experiments carefully made according to his system very near the truth. From his experiments upon friction, Mr. Froude ascertained that the amount of the friction of water upon surfaces of various kinds and the law of its augmentation varied not only as to the coefficient, but also, with equal velocity, according to the length of the surface over which the water passed, the friction being greatest for the short surface and smallest for the longest, at least up to the length of 50 to 60 feet, after which, or for a surface of greater length, the coefficient of the friction appeared to remain nearly constant. Thus, at the speed of 600 feet per minute, or 10 feet per second, the friction upon one square foot of a smooth varnished surface two feet long was 0.390 pounds, while, when the surface had a length of 50 feet, it was only 0.225 pounds; and the index of power expressing the law of increase was in the former case 2.00 and in the latter 1.83, which is the same as to say that doubling the velocity increased the friction 4 times for the short surface, but only 3.55 times for the long one. Mr. Froude now proceeded as follows: The amount of friction per square foot of surface was calculated for the various speeds over 600 feet per minute (about six knots), according to the coefficient and exponent for the greater length of surface and the values thus obtained reduced to the corresponding speeds of the model in proportion of the square of the relative velocities. The amount of surface friction of the model thus obtained, would evidently be considerably less than the actual friction at the experiment, calculated according to the greater coefficient and shorter length of the model. If, now, in calculating the resistance of the ship from the resistance obtained at the corresponding speed of the model, according to Mr. Froude's law, as expressed by the equation:

$$R = r\left(\frac{L}{l}\right)^3,$$

(which is in complete accord with the duplicate ratio of resistance), correction is first made by subtracting the difference of the two values of surface friction above mentioned from the actual resistance of the model, it follows that the thus calculated resistance of the ship must *be correct* as far as regards its surface friction.

But the surface friction of a vessel with small velocity constitutes nearly the whole, and within moderate limits of speed 90 to 75 per cent. of the resistance. It is clear, therefore, that carefully conducted model experiments upon Mr. Froude's plan will, through the ingenious device above referred to, determine this element of a ship's resistance with a high degree of accuracy. But surface friction has little or nothing to do with the form of the vessel, while the remaining elements of the resistance, which in distinction from the surface friction may be termed plus resistance, depends, to its amount as well as to its law of augmentation, entirely upon the model of the ship's hull; and since this may vary in proportions and lines almost infinitely, it follows that its effect upon the resistance is not subject to any general law. It has been already mentioned that the resistance of a model in tank experiments rises, as the speed increases, in a higher ratio than as the square of the velocity; but as the surface friction is governed by a less ratio of augmentation, the higher ratio of resistance, as given by the experiment, must evidently regard the plus resistance. It may be of interest to examine somewhat further the relation of this element of the resistance to Froude's law, and with this object, using the same denomination as before, calling the resistance of the model at v speed r; the resistance of the ship at V speed R; the speeds, dimensions, and immersed area of the model and ship respectively v and V, l and L, and a and A; and let the resistance of the model, r, be composed of m and n, of which m denotes the surface friction and n the plus resistance, each corresponding to M and N, expressing the surface friction and plus resistance of the ship composing its resistance R; then $r = m + n$ and $R = M + N$; and, as before shown, $\frac{R}{r} = \frac{V^6}{v^6}$, and therefore $R = r\frac{V^6}{v^6}$; we shall also have $M = m\frac{V^6}{v^6}$ and $N = n\frac{V^6}{v^6}$, whence:

$$R = m\frac{V^6}{v^6} + n\frac{V^6}{v^6}.$$

The term $m\frac{V^6}{v^6}$ in the last equation will then represent the correct surface fraction of the ship at V speed and the term $n\frac{V^6}{v^6}$ the plus resistance, which would also be correct provided that n increases in the ratio of the square of the velocity. But if its ratio of augmentation is governed by an exponent greater than 2, and calling the excess x: we have the plus resistance per square foot of the model at v speed $= \frac{n}{a}$ and that of the ship $= \frac{N}{A}$. The index of power expressing the law of augmentation being $2 + x$, we shall then have the analogy:

$$\frac{n}{a} : \frac{N}{A} = v^{2+x} : V^{2+x};$$

whence

$$\frac{n}{a} \cdot V^{2+x} = \frac{N}{A} \cdot v^{2+x};\ AnV^{2+x} = aNv^{2+x}, \text{ and } N = n\frac{A}{a} \cdot \frac{V^{2+x}}{v^{2+x}}.$$

But $\frac{A}{a} = \frac{L^2}{l^2}$, and as $\frac{L}{l} = \frac{V^2}{v^2}$, $\frac{A}{a} = \frac{V^4}{v^4}$; and substituting this value of $\frac{A}{a}$ we obtain:

$$N = n\frac{V^4}{v^4} \cdot \frac{V^{2+x}}{v^{2+x}} = n\frac{V^{6+x}}{v^{6+x}}.$$

The excess of the ship's resistance over that as obtained according to Froude's law will then be expressed by the difference between these two values of N; or if we call this excess E:

$$E=n\frac{V^{6+x}}{v^{6+x}}-n\frac{V^6}{v^6}=n\left(\frac{V^{6+x}}{v^{6+x}}-\frac{V^6}{v^6}\right);$$

$$E=n\left(\frac{V^{6+x}v^6-V^6v^{6+x}}{v^6\,v^{6+x}}\right),$$

$$E=nv^6V^6\left(\frac{V^x-v^x}{v^6v^{6+x}}\right), \text{ and}$$

$$E=\frac{nV^6}{v^{6+x}}\left(V^x-v^x\right).$$

If we now, for an example, assign some definite values, choosing a vessel of about 8200 tons displacement on 24 feet draught of water, and calling $L=432$ feet; $l=12$ feet; $A=31104$ and $a=24$ square feet; $v=230$ and $V=1380$ feet; $r=1$ pound (composed of $m=0.8$ and $n=0.2$); and $x=1$, in which case n increases as the cube of the velocity:

According to the equation $R=r\left(\frac{L}{l}\right)^3$ we have then the resistance of the ship $=1\times(36)^3=46656$ pounds, composed of $M=0.8\times(36)^3=37324.8$ pounds, and $N=0.2\times(36)^3=9331.2$ pounds; and

$$E=\frac{0.2\times(1380)^6}{(230)^7}(1380-230)$$

$$E=\frac{0.2\times(1380)^6}{(230)^7}1150.$$

Log. 1380=	3.1398791	Log. 230=	2.3617278
	6		7
	18.8392746		16.5320946
	16.5320946		
	2.3071800		
Log. 1150=	3.0606978		
Log. 0.2 =	0.3010300−1		
Log. E =	4.6689078		
E =	46656 pounds.		

It thus appears that in this particular case the difference in the resistance of the ship at the speed of 1380 feet per minute, or between 13 and 14 knots, would be exactly equal to the whole resistance, R, calculated according to Froude's law. This can also be easily deduced from the equation, since $V=6\,v$; as by inserting this value of V we obtain:

$$E=\frac{n\,6^6\,v^6}{v^7}(6v-v)=\frac{n\,6^6}{v}5\,v, \text{ and}$$

$$E=\frac{0.2\times 6^6}{v}5\,v=6^6=46656.$$

The plus resistance (0.2 pounds), which, according to Froude's law, increases to 9331.2 pounds for the ship at the corresponding speed, should, therefore, if governed by the law of the cube of the speed, be equal to $E+N=46656+9931.2=55987.2$ pounds, or considerably more than the whole resistance as calculated according to Froude's law.

We know, however, that this cannot be so, for it has been practically

proved that the calculated resistance according to Mr. Froude's system would, for the moderate speed assumed in the foregoing example, be very nearly correct, and the plus resistance N would, therefore, actually be about 9931.2 pounds. But it is not difficult to explain the cause of this. It should be borne in mind that, in the equations expressing Froude's law, the resistance is assumed to affect equally the whole immersed area of the model and ship, while, in point of fact, the bottom part of the ship encounters far less resistance per square foot than the part near the surface. The portion of the ship's hull at a considerable depth below the surface, encounters but little more resistance than that owing to the surface friction, and it is therefore only the resistance of the portion of the immersed area near the surface of the water that will be affected by the high ratio of augmentation. If we now propose to ascertain, in the example given, how great portion of the ship's immersed surface, supposing its resistance to be governed by the triple ratio of the velocity, would account for the resistance of 9331.2 pounds, Y may represent that area. As the model, with its comparatively small volume, is wholly at the surface of the water, its plus resistance, n, may, without any appreciable error, be considered to be equally distributed over its immersed area, whence its amount per square foot will be $=\frac{n}{a}$. If now the ship itself is supposed to be moving at the same rate of speed, v, as the model, its plus resistance per square foot of the area Y would also be $=\frac{n}{a}$. The whole plus resistance of the ship at the speed v would therefore be expressed by $\frac{nY}{a}$; and as that part of the resistance is assumed to increase in proportion of the cube of the velocity, we have:

$$\frac{nY}{a} : N = v^3 : V^3,$$

whence

$$\frac{nYV^3}{a} = Nv^3, \qquad nYV^3 = aNv^3, \text{ and} \qquad Y = \frac{aNv^3}{nV^3} = \frac{aN}{n}\left(\frac{v}{V}\right)^3.$$

And if we in this last equation assign the proper values:

$$Y = \frac{24 \times 9331.2}{0.2} \times \left(\frac{1}{6}\right)^3 = \frac{223948.8}{0.2} \times \frac{1}{216}; \qquad Y = \frac{223948.8}{43.2} = 5184.$$

It appears consequently that a portion of the immersed area of the ship equal to 5184 square feet, or less than one-sixth of the whole wetted surface, would, with its resistance augmenting as the cube of the velocity, be sufficient to account for the ship's resistance over and above that caused by the surface friction. But this area of 5184 square feet would in the present example, with the vessel of 432 feet length, only embrace a zone extending from the surface of the water to a depth of about 5½ feet.

If it were possible to annul the plus resistance of a ship altogether, thus reducing her resistance to that of the surface friction alone and no more, we should then evidently have arrived at a complete solution of the problem how to find the form of least resistance. From what has

now been said it should be clear that such a body or vessel must be entirely submerged; but as in our present state of knowledge we must yet be confined to the air above the surface of the water, it seems that the road towards improvement, when speed is mainly considered, must clearly lie in the direction pointed out by the foregoing train of reasoning, *i. e.*, to design the vessel so as to diminish as much as possible the resistance in and about the surface of the water.

From what has now been said it should be clear that while with low or even moderate speeds surface friction is of the greatest account, its influence becomes of less importance whenever very high speeds are contemplated; and as the amount of surface friction is directly proportionate to the area of wetted surface, the great importance of having that area as small as possible is evident whenever speed is but of secondary consideration. But when the question of high speed arises the surface friction loses much of its relative weight and the other elements of resistance, which exclusively depend upon the form of the hull, must be more particularly taken into account.

In this connection it may be proper to give here some account of the experiments relating to the speed and power curves accompanying this paper. These curves represent the results from a series of experiments upon Mr. Froude's system with a model like the one now shown, but larger, made from the design of the ship having 10881 tons displacement. The model was made of wood, coated with paraffine and varnished, in order to make it as far as possible like those used by Mr. Froude in his experiments for the British Admiralty, and using the same coefficients of friction. The length of the model was 10 feet, its dimensions being one forty-fifth of those of the ship; the displacement = 0.11941 tons or 267.47 pounds, and the immersed surface = 18.785 square feet.

The resistance of the model, being the mean of a great number of runs at the corresponding speeds, and the therefrom calculated effective horse-powers, were as follows:

Speed.	Resistance of model.	Effective horse-power of ship.
	Pounds.	
At eight knots	0.1880	420.8
At nine knots	0.2330	593.8
At ten knots	0.2840	794.7
At eleven knots	0.3390	1042.4
At twelve knots	0.4015	1348.2
At thirteen knots	0.4690	1706.0
At fourteen knots	0.5400	2115.4
At fifteen knots	0.6245	2621.2
At sixteen knots	0.7235	3239.2
At seventeen knots	0.8290	3991.0
At eighteen knots	0.9720	4895.7
At nineteen knots	1.1200	5954.5
At twenty knots	1.2675	7068.4
At twenty-one knots	1.4525	8541.0
At twenty-two knots	1.6695	10277.4
At twenty-three knots	1.8696	12033.7
At twenty-four knots	2.0423	13715.3

ADVANTAGES OF THIS DESIGN OVER THE COMMON TYPE OF SHIP.

In the memorial presented to the President and to Congress, I have enumerated in ten points some of the advantages of my invention, in comparison with vessels of the ordinary type. Referring to them, I will now add some further considerations appertaining to the subject.

1. The first point, "*that the design makes it possible to combine the finest lines for high speed, with great carrying capacity*, will, I think, be sufficiently apparent by examining the drawings and models presented herewith.

To elucidate this point, the ship of 450 feet length and 23 feet draft may be compared with the steamers Gallia and Arizona, both well-known Atlantic steamships. The Gallia is 438 feet long, and draws 24 feet of water at the load-line. She is therefore, 12 feet shorter, but draws 1 foot more water than the ship of my design, which more than compensates for the difference in length. The Gallia's displacement is 8200 tons, while that of this design is 10881 tons, having thus 2681 tons, or nearly 33 per cent. greater carrying capacity that the Gallia.

The Arizona is 450 feet long, and draws 26 feet of water when loaded. Her length is therefore equal to that of this ship, but she draws 3 feet more water. Yet her displacement is only 9500 tons. The ship upon my plan has therefore, on 3 feet less draft, 1381 tons greater displacement. If she also were loaded to 26 feet draft, her displacement would be 12250 tons, having then 2750 tons greater displacement. In the former case her carrying capacity would be 14½, and in the latter 29 per cent. greater than that of the Arizona.

The ship of 490 feet length, drawing 25 feet of water, has a displacement of 13677 tons, which is 1200 tons greater than that of the Servia, although that ship is 515 feet long and draws 26 feet of water.

But yet these ships, although well designed upon the ordinary plan, and holding their place among the best of ocean steamships of the present day, are what might be termed bluff ships in comparison with the vessel of my design.

2. *The form of the aft part of the immersed hull with its submerged stern, which divides the water horizontally, permits, in the highest possible degree, great sharpness astern, or what is called "a clean run," which is the indispensable condition for high speed.*

It will be seen by inspecting the designs and models that the lower part of the hull terminates astern in a horizontal edge, joining both propeller tunnels, which for some distance form the bottom of the hull. The water passing the widest part of the ship flows above as well as below this portion of the stern, being thus divided in a horizontal instead of vertical direction. The angle of obliquity determining the sharpness of run of this part of the hull must therefore be taken vertically, and it will be at once perceived that it may remain unaltered, whatever width the horizontal portion of the stern may have. The water above the level of the propeller shafts and the horizontal stern is divided vertically in the usual way. This portion of the ship is, as will be observed, very sharp, forming a "clean run," which will permit a perfectly free and easy flow of the water all the way from the middle of the ship astern to the rudder and propellers. The angle of obliquity of the water-line, just above the horizontal stern, is the most obtuse of all, diminishing from this point as the water-lines rise to the load-line, which is the sharpest of all the water lines, its angle of obliquity being the smallest.

It will thus be seen that the greatest bulk of the displacement is in the lower part of the hull at a considerable depth below the surface, where the resistance of the water is the least, developing gradually into the flat stern, which makes sharp lines and small angles of obliquity possible, although the width of the ship amidships at that depth below the water may be very great.

The water-lines above the load-line gradually expand, but are yet very sharp to a considerable height above the water. The fine run is thus maintained, even if the ship should be loaded much deeper than to the load water-line. It is clear that maintaining a fine run, not only in the load water-line, but also to a considerable height above it, will obviate the increased resistance which in ships of the usual form always takes place in a seaway when the ship sets or the sea rises under the counter.

The importance of having a good run in a ship, or sharpness astern, is generally understood, but its enormous influence when *high* speeds are contemplated is perhaps hardly sufficiently appreciated. It has been proved by Colonel Beaufoy and others that an angle of obliquity astern of twenty degrees increases the resistance within moderate speeds over 18 per cent. But few, if any, ships have so small an angle of obliquity at the load water-line; generally it is very much larger, even in ships designed for good speed. It is true that the sharpness increases with the depth below the water-line until at the keel it becomes a straight line, *but the resistance is greatest at the surface.*

3. *The great width of the aft part of the ship's hull, which is a consequence of the submerged horizontal stern, affords ample room for the application of the greatest engine power compatible with the displacement.*

The designs and models show this, I think, so clearly that any further explanation may be superfluous.

4. *The design is eminently adapted for the use of twin screws, as the form of the submerged stern affords a perfect support to the propeller shafts.*

It has been said already that the main object of this invention is *high speed*, which means the application of great power, and for that purpose two propellers, or twin screws, should be used. It has also been shown how, by the adoption of the submerged flat stern, at the greatest possible depth compatible with the displacement and the draft of water, it became possible to have large breadth of beam and consequently great displacement, and yet fine lines and a clean run aft. But in solving that problem another great point was gained, namely, to give a firm support to the propeller shafts for twin screws. As seen on the model, the tunnels for the propellers form the bottom part of the submerged stern; and as these tunnels should be built of very heavy plates, they will add immensely to the strength of this part of the ship.

5. *The propellers act constantly in solid water, undisturbed by the proximity of the stern-post, rudder, and the overhanging part of the stern, as in ships of the usual model. This must cause an economy of power or a corresponding increase in speed.*

That the propellers, by their position, will be enabled to exert their power to best advantage, undisturbed by eddies or broken water from the causes mentioned, will be readily perceived; but with respect to the advantages gained by that position of the propellers, in comparison with their usual place in ships of ordinary model, it may be proper to add some further observations.

Among the advantages of twin screws over the single propeller, so *ably set* forth by Mr. W. H. White in his paper to the Institution of

Naval Architects, in London: "On the comparative efficiency of single and twin screw propellers," he particularly remarks the greatly increased power developed by the propellers being deeply immersed. Now, it is evident that twin screws may always be more deeply immersed than a single screw of equal power, owing to their smaller diameter. In the Navy Scientific Papers, No. 12 (page 45) some experiments are quoted from a paper of Mr. G. B. Rennie to the Institution of Naval Architects, London. These experiments were made with a small propeller of 1 foot 9 inches in diameter, and showed the following results:

When the propeller just touched the water edge its resistance, at a certain number of revolutions, or the power it developed, was 7 pounds per square inch of the disk area; when immersed six inches deeper the resistance rose to 28 pounds, and to 56 pounds when there was 54 inches of water over the propeller.

In smooth water, when the even motion of the ship keeps the propeller steadily immersed to about the same depth as it was when the ship was in port, it may not appear to make much difference if the propeller, as in most Atlantic line steamers, comes when the ship is loaded to within two feet or even less of the water edge; but in a little sea, causing the ship to begin to pitch, or to have even a very slight longitudinal motion, the upper points of the propeller blades will of course rise to the surface or above it. That, in such case, a very considerable amount of power is lost, needs hardly to be pointed out. But another yet more important cause of detraction from the efficiency of the single propeller is to be found in the disadvantageous position of the propeller, placed, as it is, in front of the rudder, far under the counter where, particularly, while pitching, the water is mostly broken into eddies, in which the propeller has to do its work. But the greatest cause of loss of power arises generally from the want of a clean run at the surface of the water. The angle of obliquity of the load water-line is in most ships very large, frequently forty-five degrees and over, compelling the water to flow along the counter in a curve and enter the disk of the propeller at a small angle instead of in a nearly perpendicular direction, as it ought to do. Mr. Froude estimates the augmentation of resistance from that cause all the way from 40 to 15 per cent. for a single screw ship (see page 164, Navy Scientific Papers, No. 10), and as low as 12 to 8 per cent. for twin screws.

It is not difficult to account for this great increase of resistance and consequent loss of power. The water at the surface following the curve of the ship's side strikes the propeller with less velocity than the water deeper down, which enters the disk of the propeller in a more direct line. But the propeller revolves according to the speed of the ship, that is to say, in conformity to the velocity of the water nearer the ship's bottom, and the blades of the propeller must therefore encounter unequal resistance, as, during the revolution, they pass through layers of water of different swiftness. When the top of the blade passes through these slower currents, the power required to force that water astern with the same velocity as that of the unobstructed free-flowing water nearer the keel must be that much power lost. The thumping noise of the propeller, and its vibration, is mainly due to the same cause. The simple fact is that with most ships the water at the surface, even when going at but moderate speed, forms eddies or dead water about the middle of the stern, and the propeller has to exert a large percentage of its power to suck that water away.

In an experiment made with a working model at the Royal Service Institution, London, a *telescopic pipe*, passed through the stern, allowed

the water to flow into a compartment in the vessel, which was thus filled in ten seconds; but when the pipe was pushed out to the screw, while propelling the vessel ahead, the suction was powerful enough to empty the compartment in seven seconds, during which operation the vessel lost 19 per cent. of its speed.

It has been mentioned that Mr. Froude found less loss of power with twin screws than with single propellers. This is but a natural sequence of their smaller diameter and consequent deeper immersion where the run is better, or, in other words, the angles of obliquity of the water-lines more acute. But here again comes in another cause of resistance. Any one looking down on the water close to the ship's side, when going at a moderate speed, will notice that the water near the ship's side and for some little distance from it, moves with the vessel. There is always such a current of water with the ship caused by the friction, the velocity of which is, of course, greatest close to the ship. The twin screws in the ordinary type of ship have their position so that the tip of their blades come very near to the side of the ship; at all events near enough to encounter part of the current thus following the vessel, and the effect is similar to that with the single screw, namely, loss of power and vibration of the propellers. That the power absorbed by this current is considerable has frequently been shown, as, for instance, by the circumstance that in paddle steamers greater speed has been gained by cutting away a portion of the floats next the ship's side, the remaining portion, although of considerably less area for applying the engine power, yet giving a higher speed.

These facts are well known; they have been observed and proved by numerous experiments conducted by Mr. Froude and others, and notably so by Mr. Robert Griffith, of London, who has devoted himself almost exclusively to the study of the propeller. During a long course of experiments with working models, he found that with the propeller placed close up to the stern, or to the wedge of the run, as in existing ships, greatly increased resistance and loss of power always took place. But when the propeller was moved further aft away from the dead water always found close to the stern, the speed was increased from 12 to 15 per cent.

But if the augmentation of the speed gained by reducing the extra resistance above spoken of did not even amount to more than 6 per cent., the corresponding economy of power, through diminishing the weight of engines and coal, would amount to a much greater percentage. It may be of some interest to see how great would be the economy of power thus gained; therefore, let—

v represent the speed of the ship before the improvement;
P, the power required to produce that speed;
V, the speed of the improved vessel with the same power;
n, the percentage of speed gained;
p, the power needed to produce the speed v with the improved vessel;

then

$$V = v + \frac{vn}{100} = v\left(1 + \frac{n}{100}\right); \text{ and } V = v\left(\frac{100 + n}{100}\right).$$

But as within moderate speeds the resistance is proportionate to the square of the velocity, and, therefore, the power required to produce the speed proportionate to the cube of the speed:

$$P : p = V^3 : v^3, \text{ and } Pv^3 = pV^3;$$

and if for V is substituted the above value:

$$Pv^3 = pv^3\left(\frac{100+n}{100}\right)^3; \qquad P = p\left(\frac{100+n}{100}\right)^3;$$

$$P\,(100)^3 = p\,(100+n)^3, \quad \text{and} \quad p = P\left(\frac{100}{100+n}\right)^3.$$

If, now, $n = 6$,

$$p = P\left(\frac{100}{106}\right)^3 = 0.839\ P;$$

or it appears that it would take less than 84 per cent. of the power to produce the original speed with the improved vessel, equal to a saving of over 16 per cent.

A ship built upon the present design will avoid the greatest part, if indeed not all, of the extra resistance above mentioned. The propellers are much deeper immersed than the single screw, and must therefore always retain a better hold upon the water, while the water-lines are very sharp, with small angles of obliquity all the way up to a considerable height above the surface, thus permitting the water to flow with an even velocity to the propellers. There will consequently be no unequal currents to absorb power or cause vibration, and the propeller blades are far away from the ship's side, beyond the influence of the accompanying current of water caused by the surface friction.

6. "*A vessel of this form will not roll or pitch as much as vessels of the common type, because the body of water over the projecting part of the hull will offer considerable resistance to such motion. Less pitching will also, in a great measure, tend to prevent 'racing' by the propellers partly lifting out of the water; and this greater steadiness of the ship during its progress through the water must economize power or add to the speed.*"

It will be perceived by examining the designs that the projecting sides of the ship at a considerable depth below the surface of the water must tend to keep the ship steady in the same manner as bilge keels in an ordinary vessel. The effect of such bilge keels to diminish rolling was well known long ago, but it was only by the direct experiments of Mr. Froude, upon full-sized ships, that actual measurements were made to determine the degree of increased steadiness thus gained; and it was then proved that the bilge keels reduced the rolling from 23 to 11½ degrees, or just one-half. Where now such a result could be gained by bilge keels only about 2 feet deep, much greater effect must be produced by the projecting sides of the hull, which extend 4 feet beyond the load water-line. But aside from such general reasoning, there are other causes susceptible of mathematical demonstration why a vessel of this design must be very steady.

The rolling motion of a ship is governed by the subsurface of the wave passing through the Center of Buoyancy; or, more correctly expressed, the effect of a ship's stability is to keep her upright with respect to this subsurface, or, as it is termed, "the effective wave surface." This effective wave surface is therefore situated just as much below the actual surface of the water as is the Center of Buoyancy; and inasmuch as the steepest slope of a wave, or its greater angle with the horizon near the crest, is to be found at the surface of the water, while the subsurface of every successive layer of water, as the depth increases, gradually becomes more and more depressed, until at a certain depth it becomes a perfect level, it follows that a deep ship with its Center of Buoyancy low down will, as a rule, roll less than one of less draught and

higher Center of Buoyancy; provided that the conditions as to t meta centric height are similar, or not excessive in either. Now, as w be observed, the Center of Buoyancy in this design is exceptionally l down, and as the height of the Meta Center above the Center of Gravi is such as to insure ample stability and easy motions at sea at all draugl of water to which the ship may be loaded, the foregoing reasoni shows that the ship will be exceptionally steady.

But it follows from the great breadth of the hull, as well as from form, that its Radius of Gyration is very great—greater than in ordinary ship of equal displacement—and, consequently, the equivale pendulum, the revolutions of which would keep exact time with t oscillations of the free rolling ship, will also be of exceptionally gr height.

The position of the propellers and the great weight of the engines considerable distance from the middle line of the ship, will also ha the effect of lengthening the Radius of Gyration and make the period oscillation longer than if there was only a single screw.

From what has now been said it may be concluded that the rolli motion of a ship upon this design will be exceptionally slow, and the fore also very easy.

As to the pitching motion, the same argument presents itself as in r ing, as to the effect of the superincumbent body of water over a porti of the ship's hull to check or diminish the motion. But here the elem of speed must be taken into particular consideration. It may be sup fluous to observe that the great sharpness of the ship, or the extre fineness of its entrance and run, while especially favorable for penetr ing the seas, is not calculated to permit the bow or stern to be eleva by the meeting waves as easily as a vessel of the common type. T sea, which almost immediately, when such a vessel plunges into it, gins to lift the bow, will have comparatively but little power to do with a ship upon this plan. Suppose a vessel of the ordinary fo riding at anchor in a storm with heavy sea. A wave meeting the shi bow would quickly commence to elevate it and continue to do so un the Center of Buoyancy (which, changing its position with the moveme of the vessel, is forward of the Center of Gravity while the bow is bei raised) had passed the perpendicular of the ship's Center of Gravity, which moment the descending motion of the bow would begin, except the influence of the weight of the suspended cables at the bow. B with a ship of this design, of about equal size, under similar circu stances, the case would be widely different, because the sharp b would pass through a considerable portion of the wave before much its buoyant effect would be felt.

It is clear, therefore, that the pitching motion of a ship of this desi would be much less in degree, than for a ship of the common form. I another circumstance must also be taken into consideration.

The longitudinal Meta Centric height of the ordinary vessel, w her, for a considerable distance, nearly parallel sides and full bow, always very large, and the energy with which she will strive to reg her disturbed stability is consequently also very great, causing the b after being raised by the wave, to descend and plunge into the sea w great violence.

In the present ship, with her sharp ends and total absence of a parallel middle body, the longitudinal Meta Center will not be so hi and the longitudinal motion therefore more easy.

Suppose now that the ship, the design of which is presented herewi and another steamer of common form and power were steaming agai

the wind and sea. The ordinary vessel, going at a good speed at the beginning of the gale, before the sea had had time to get up much, would, when meeting a heavy sea, plunge her bluff bow violently into it, then rapidly rise, and so with the succeeding waves the pitching would commence in the usual way, straining the ship with the quick violent motion and heavy blows of the seas, sometimes almost stopping all headway, and "racing" the engines until it becomes necessary to "slow down."

The ship of this design would behave differently. I have shown that her pitching motion would be much less at anchor than that of an ordinary vessel; but this difference between the two ships would be far greater when steaming against a gale. She would raise her bow but little as she passed through the meeting wave, and her great speed would, in connection with the actual velocity of the waves, cause so rapid a change in the position of the Center of Buoyancy that the inertia of the ship could permit only a slight deviation from the horizontal position. Her sharp bow would penetrate the waves with comparative ease, without feeling their shocks in the manner of the common ship. With her deeply-immersed propellers and steady motion there would be no "racing" of the engines, and but little need of slacking the speed on account of the sea.

7. *The rudder (or rudders, if two are used) may be made lighter and have considerably less area than in ships of the ordinary kind, because the stern of the vessel, on account of its form, offers less resistance to lateral motion, thus requiring less power to swing or move it sideways. The resistance to the vessel's progress due to the rudder being proportionate to its surface, it follows also that the diminished area must lessen the resistance and tend to increase the speed.*

This point will need but little further explanation. The effect of the rudder being to move the stern of the ship sideways, it is clear that the resistance to such motion, or the amount of power required to overcome it, must depend upon the length of the vessel and the vertical area that has to be moved laterally, *i. e.*, the longitudinal midship section of the ship; and it will be seen that this area is in the present design considerably less than in vessels of the common form of equal length and draught of water. It should also be observed that the greatest difference in the longitudinal area, as compared with that of a ship of the common form, occurs furthest aft, where, during the swinging motion around the ship's Center of Gravity, the velocity is greatest, and, consequently, most of the power is absorbed.

The resistance to the lateral motion caused by the rudder being thus necessarily diminished for a ship of this design, it follows that its rudder may be of considerably less area and yet develop as much effect as a rudder of greater area upon an ordinary vessel of equal length and draught of water. Or, if both vessels have rudders of equal area, the ship of this design must answer the helm more quickly than the ordinary ship.

8. *Owing to the increasing width of the hull below the load water-line, the ship will stand upright, and may be moved about or go to sea without ballast. Indeed, the more the vessel is lightened the greater becomes the stability, because the Meta Center rises with the greater beam much more rapidly than the Center of Gravity.*

As this subject is of very great importance, the question of stability

being usually one of the first points raised in examining any new design, some additional observations will here be in place.

The statical stability of a vessel, being the moment of force exerted to replace it in an upright position after having been inclined to a certain angle, depends, as is well known, upon the relative position of its Meta Center and its Center of Gravity, the ship being stable or standing upright as long as the Meta Center is above the Center of Gravity, but losing all stability when these two points meet. When the ship is stable and heeled over from the upright position, there are two forces at work endeavoring to raise the vessel to the upright position again, namely, the lifting force of the water, the resultant of which acts through the center of displacement, or the ship's Center of Buoyancy, and the weight of the ship, acting through its Center of Gravity. As the ship is inclined, the form of the displacement is altered and its Center of Buoyancy takes another place than before, while the Center of Gravity of the ship does not change its position. A vertical line through the Center of Buoyancy passes through the Center of Gravity when the ship is upright, but a vertical line through the new Center of Buoyancy in the inclined position does not pass through the Center of Gravity, but intersects the vertical line of the upright position at a certain point, which is the Meta Center. The greater the height of the Meta Center is above the Center of Gravity the greater is the stability, and *vice versa*. If, however, this height is too great, or beyond a certain limit, the ship will be uneasy, or her movement to regain the upright position after being deflected from it, quick and violent, and should therefore be avoided, as well as to have that height too small, which might endanger the safety of the vessel. Experience has proved that this, or the Meta Centric height, ought to lie between 4 and 2, although a much less Meta Centric height is quite common in steamships of the present day, which practice, however, greatly diminishes the safety, as will be more particularly shown hereafter.

The height of the Meta Center relative to the Center of Buoyancy is a function of the moment of inertia of the plane of flotation (surface water-plane) and the displacement, being generally expressed thus:

$$\text{Height of Meta Center above Center of Buoyancy} = \frac{\frac{2}{3}\int y^3\,dx}{D};$$

in which y is the varying half breadths of the plane of flotation and D the displacement.

By inspecting this formula, it becomes evident that if the plane of flotation has no breadth at all, that is to say, if the ship were entirely submerged, she would have no stability, except if the Center of Gravity were situated below the Center of Buoyancy, as in the case of a life-boat.

It is also clear from the above algebraic expression that whenever y, or the half breadth, increases, the length and depth of the vessel being unaltered, the height of the Meta Center increases, since y^3 increases more rapidly than D; and *vice versa*, whenever y decreases, the height of the Meta Center diminishes, because in that case y^3 decreases more rapidly than D.

By inspecting the present design, it will at once be seen that the half breadth of the load water-plane always increases, whether the ship is lighter or loaded deeper than to the load water-line.

It will be perceived that this is entirely contrary to the conditions of the ordinary type of vessels, in which, when light, the area of the

plane of flotation and its moment of inertia generally is much less than when the ship is loaded. And this is also the case when such a ship is loaded deeper than to the load-line, because the ship's sides almost invariably incline inwards, or "tumble home" to greater or less degree.

It will readily be understoood that, as the Center of Gravity in a vessel of the common form rises when the ship is lightened by taking cargo or coal from the lower part of the hull, while the Meta Center does not rise, or at all events cannot rise as rapidly as the Center of Gravity, these two points will meet when a certain amount of weight is discharged or consumed, and then the ship must capsize; unless precautions have been taken, by ballast or weight of some kind in the lower hold to keep her upright.

Accidents of this kind, which are but too frequent, cannot possibly happen to a ship of this design.

Again, if an ordinary vessel is loaded deeper than to the load-line, the initial stability rapidly decreases, since not only the moment of inertia of the plane of flotation diminishes, but the displacement at the same time increases. In other words, the nominator in the expression

$$\frac{\frac{2}{3}.\int y^3\,dx}{D}$$

decreases while the denominator increases; and the diminished stability can only be made good by greater proportionate weight in the bottom or lower part of the hull.

In a ship of this design, with expanding sides, when loaded deeper than to the assumed load water-line, the area of the plane of flotation and its moment of inertia increases, thus counteracting the effect of the augmented displacement to diminish the initial stability.

Referring to the synopsis of calculations as given hereafter, it will be seen that the ship of 450 feet length and 10881 tons displacement on 23 feet draught, has a Meta Centric height of 3.458 feet above the Center of Gravity when the ship is loaded ready for sea, while when lightened to 14 feet draught, supposing her to have no cargo, coal, stores, water, or ballast, and no water in the boilers, but otherwise completely fitted and fully rigged, the height of the Meta Center above the Center of Gravity would be 5.060 feet; and if we suppose that every movable weight, such as engines and boilers, &c., were taken out of the ship, leaving the empty shell of the hull, but still being fully rigged with all her top hamper aloft, we should find that the Meta Centric height above the Center of Gravity had increased to 11.389 feet.

The larger ship of 490 feet length and 13677 tons displacement on 25 feet draught, having, then, besides a full complement of passengers, 3200 tons coal and 611 tons of express cargo, has in that condition her Meta Center 3.616 feet above the Center of Gravity. And when light, having no coal, cargo, stores, or ballast and no water in the boilers, but yet fully rigged, her draught of water being then 15.5 feet, the Meta Centric height is much greater than in the loaded condition, being 5.895 feet; while, if the engines and boilers were also supposed to be taken out, reducing the draught to 10.43 feet, the height of the Meta Center above the Center of Gravity would be not less than 13.211 feet.

The ship will have room for her complement of coal in her coal bunkers and the lower hold below the orlop deck, and as the coal is consumed during the voyage the weight will therefore be taken from the lower part of the hull near the bottom, having consequently the greatest possible effect upon the stability. If now the ship, when leaving port were

loaded to her load water line on 25 feet draught, and assuming that at the end of her voyage she had consumed 2500 tons of coal, in which condition her draught of water would be 20 feet, the height of her Meta Center above the Center of Gravity would, under such circumstances, be yet 2.981 feet.

It is probably superfluous to observe that few, if any, vessels of the ordinary type can stand upright if thus handled. In order to preserve barely enough stability to be termed "safe," with great elasticity given to the word, after being lightened by consuming the coal, it has become an almost universal practice to carry water ballast, sometimes in separate tanks, but mostly in a double bottom, or in the space between the frames of the ship, into which the water is admitted and afterwards pumped out when not wanted. But besides this many steamships must carry a great deal of permanent ballast: and as this is equal to a direct loss of so much freight that otherwise might have been earned, it is only too probable that this permanent ballast is not often any too great. It need hardly be said that this want of natural stability in the ordinary type of steamships is a source of very great danger, for which water ballast and scantily apportioned permanent ballast are at best but unsatisfactory palliatives.

If it could be accurately known how many vessels, steamships in particular, which have never been heard from, were lost from this cause of insufficient stability, the list would assuredly be a long one. But this subject, although none can be of greater importance, involving, as it does, the question of life and death to all those who happen to be on board of a vessel, the design of which is faulty in this respect, has scarcely received the attention which it demands.

With the fashion of building extremely long and narrow ships, under the erroneous impression that such excessive proportions would cause increased speed and give greater carrying capacity, the vital point of stability came gradually to be more and more lightly considered, until there are vessels now built having no initial stability at all when launched; and which therefore, from that very moment, can only be kept from capsizing by having a lot of ballast in the bottom. It is clear that even such ships may acquire stability enough by the weight of the cargo or by a quantity of permanent ballast, but their safety must always depend upon the manner of stowing the load, and some carelessness in that respect, which unfortunately is only too apt to happen, may be the cause of serious disaster. Two recent calamities of this kind attended with great loss of human lives, of which we have accurate knowledge simply because they happened to take place while the vessels were in port, furnish conclusive evidence upon this point: the capsizing and sinking of the steamer Daphne immediately upon being launched from a Glasgow ship-yard, causing the death of 124 persons, and the foundering of the magnificent steamship Austral, in the harbor of Sydney, Australia, by which 5 persons lost their lives.

The inquiries held upon these disasters as published in the Engineering, London, of August 24 and 31 and October 5, 1883, throw a vivid light upon the subject, disclosing facts, which should loudly call attention to what is really a great public danger.

It is indeed to be hoped that now, since the true state of the matter has been given to the public by publishing the reports in a few periodicals, some additional care may be taken in designing new ships; but there are thousands of vessels now afloat partaking in greater or less degree of the same conditions which sent the Daphne and the Austral to the bottom.

In the case of the Daphne, Sir E. Reed was appointed by the British Government to conduct the inquiry, and his report is so remarkable, coming as it does from an authority that will hardly be questioned, that I deem it proper to give some extracts from it. It was shown that the Meta Centric height was only 4 inches, which, of course, was altogether insufficient; and also, surprisingly enough, that English ship-builders had not, before that accident, ever thought of investigating the conditions of stability at very light draught, as at launching, owing to the apparently general impression that as long as there was any statical stability at all when the vessel was upright, there was no danger of capsizing.

Sir E. Reed says:

It would be well, doubtless, as the event has proved, for the builders of the Daphne to have made an exception of this vessel by calculating before the launch, not only the height of the Meta Center, which is often done, but also, as approximately, the height of the Center of Gravity, which is much less often done before launching.

And with regard to the subject generally, he continues:

The general belief that a high-sided ship, having some initial stability, will, as she inclines, gather large additional stability and will retain some, even at very large angles, has exercised a widespread influence on modern mercantile ship-building, and has greatly encouraged people to be satisfied with very small initial stability, in some cases with none at all, and even less than none. Many steamships of large tonnage have been built of late years for influential steamship companies and other owners, which ships are totally incapable of floating upright without the aid of ballast or of cargo, and which cannot be unloaded in dock without being held upright with hawsers attached to the shore.

Such ships, even when capable of floating unballasted without capsizing, can only do so by lolling over at large angles of inclination and there finding a position of stable equilibrium. When carefully watched over and stowed with suitable cargoes, these ships can usually be made safe at sea, and sometimes even safer than ships with larger initial stability but less range, a circumstance to which undue prominence has perhaps been given, and which has diverted many from the grave elements of danger, which more often are associated with small initial stability. There is not the least doubt, however, that the very small initial stability given to many modern mercantile steamships—given in the belief that much more is sure to be gained as the ship inclines (within large limits)—has resulted in the capsizing of many ships at sea and in grave danger to many that are still afloat; not in the same manner, because not in the condition as to lightness, as the Hammonia* and Daphne, but from other not less real deficiencies.

Sometimes such vessels are brought into a condition of apparent safety by the stowage of their own coal, but as the coal is consumed their stability diminishes, they capsize, disappear, and the word "missing" is recorded against them in an official return. No means exist, notwithstanding all our shipping legislation, for insuring that the facts will be brought to light—indeed, at the official inquiry, which follows under the present conditions, the question of stability may not even be mentioned. As the stability of a ship is often an intricate matter which can be effectually controlled only by close and careful calculations, and as no Government department is at present charged with the duties even of collecting, recording, and making known those dimensions and particulars of ships which determine their stability, the matter must be left to right itself.

The Austral disaster took place under circumstances widely different from those attending that to the Daphne. The Austral, a new ship of 474 feet length and 48 feet beam, one of the fastest and most commodious steamships afloat, comparable in these respects to the Alaska and Oregon, and built by the same renowned builders, was lying at her moorings in Sydney harbor, on the evening of November 10, 1882, laden with 190 tons of iron in the main hold, 1612 tons of coal in her bunkers, 111 tons of water ballast in one of the ballast tanks, and 70 tons in the

* The Hammonia, another steamship built by a Glasgow ship-building firm, also capsized when being launched, a year before the Daphne disaster, and from exactly similar cause.

fresh-water tanks, altogether not less than 1883 tons. She was taking in coal from a collier alongside, through the ports, which were five feet above the water, when she listed over so that the water entered through the coal-ports, whereupon she, of course, heeled over more, filled rapidly, and sunk. The disaster was so sudden that the purser and four seamen were lost in the ship.

At the subsequent inquiry upon this catastrophe, it was proved that when light, on a mean draught of 17½ feet and a displacement of 5850 tons, the Austral has a *minus* Meta Centric height of 9½ inches. That is to say, she has then just that much less than no stability at all, and would consequently capsize and turn bottom up immediately without a sufficient quantity of ballast. When laden to her load draught of 26½ feet, having then, with a homogeneous cargo and 2530 tons of coal in bunkers, fresh water in tanks and all stores on board, a displacement of over 10000 tons, her Meta Centric height is 1.26 feet. It was also said at the inquiry that "supposing all the coal to be consumed, she would still, by a proper use of the water ballast, retain a Meta Centric height of 1.16 feet." Now, in the event of the coal being consumed, she may, as stated at the inquiry, by making "a proper use of the water ballast," retain sufficient stability to be considered safe; but if, under such circumstances, from some cause or other, there should be a hitch in the proper use of the ballast tanks, the ship would inevitably capsize and sink.

But disasters similar to that which happened to the Austral may occur to the great majority of steamships afloat, and if the necessary care in the proper use of the ballast tanks should happen to be wanting at sea, the consequence is only too clear. This statement is not exaggerated. What happened in the two cases just mentioned, may happen again, not only to a few, but, as can be proved by proper calculations, to by far the great majority of mercantile steamships afloat. That in this state of things there is lurking a great public danger, is but too evident, and when, in the words of Sir Edward Reed, "the matter must be left to right itself," it is only to be hoped that proper steps to redress the evil may not be too long postponed.

The root of this evil is clearly to be found in the prevailing type of ships. There must, aside from all other considerations, such as of speed, carrying capacity, &c., exist something radically wrong in the design of all these vessels, if the lives of those on board, not to speak of the money value of ship and cargo, may be put into such fatal jeopardy by any possible carelessness, or omission of duty, of somebody connected with the ship. The captain of such a vessel has already enough of responsibility in looking out for the proper navigation of his ship and thousands of other important matters, without being saddled with additional anxieties as to whether his orders about the admission of water into the ballast tanks, at the proper time, have been attended to.

This subject is indeed of such paramount importance, that a ship possessing absolute safety in point of stability at sea, under all possible contingencies, even if she were inferior in other respects, ought still to be preferred to another vessel manifestly deficient as to that vital condition.

A ship upon the present design must be absolutely exempt from any possible risk connected with the stability. She will need no ballast of any kind, because she will actually acquire additional stability by being lightened—a fact in direct opposition to the property of the ordinary vessel. Nor will she suffer any diminution in her earnings by having a great portion of her carrying capacity taken up by ballast that pays no freight.

9. *The use of two propellers, having their shafts effectually supported and protected within the ship's hull, must add greatly to the security against accidents at sea, such as might disable a vessel with only one propeller, or where the propeller shafts, as usual with twin screws, run outside of the ship.*

Upon this point there remains but little to be added to what has been already said. It may, however, be proper to call additional attention to the frequent recurrence of accidents to the propeller shafts in large ocean steamships, and the consequent danger to the safety of the vessel. That such accidents are always of a dangerous nature need hardly to be pointed out. The breaking of the crank shaft of the Aurania, the splendid new steamship of the Cunard line, and the more recent accidents from similar cause, which disabled the Britannic and Germanic in mid-ocean, afford striking examples of the risk incurred. Of these ships the Aurania could be towed into New York Harbor within a few hours, but the other two ships had to perform long and perilous voyages under sail, which in the event of heavy weather would have become hazardous in the extreme. And, no doubt, if the truth could ever be known, the loss of many steamers now recorded as "missing" would rightly be attributed to this cause.

A ship of this design having two propellers is, of course, not entirely exempt from possible accidents of this kind. But it will be conceded that the danger will be immensely reduced, since it is exceedingly unlikely that both shafts will break at the same time, or during the same trip; and it should also be observed that a ship of the present design, with engines of such great power, would, with only one propeller, make a speed equal to the fastest steamship now afloat, and thus, after all, need but a short time to reach her destination.

10. *The arched form of the hull, with the projecting sides below water, and the general absence of any plane surface exposed to the sea, admits of very great strength of construction, and with judicious application of water-tight compartments such a vessel may be made exceedingly strong, offering the best possible security against the violence of the sea and the perils of collision.*

The truth of this will need no other demonstration than the well-known fact that an arched form of structure possesses generally the greatest elements of strength for equal weight of material. The application of this general principle is adhered to throughout this design, and must, under the conditions of good material and workmanship, result in a vessel of exceptional strength. If, with regard to the upper portion of the ship, from about the load water line upwards, it might be argued that the concave form of the ship's side is not well calculated to withstand the effect of a striking sea, the answer would be, that the effect of a force acting upon the concave ship's side is at once transmitted through the beams to the opposing convex side, and the two arched surfaces together possess a greater degree of strength to withstand the force than two parallel, or nearly parallel, ones, as in the ordinary style of ship, where the sea meets a slightly convex surface, which is but feebly supported by the slightly concave surface opposite.

It may, besides, be observed that there can be no valid reason why, if sufficient strength can be given to the outward flaring ship's side at the bow, so commonly used, where the sea is expected to strike, as it also generally does, with the greatest force, the outward bend, or the "flare" of the side, may not be continued to the middle or throughout the whole length of the vessel.

Such an outward bent ship's side may not, to any appreciable extent,

"keep off the spray" in ordinary weather, but although it evidently can have but little effect "to keep the ship dry" in a sea-way, neither does it facilitate or, as it were, invite the sea to roll inboard over the top of the rail, as does the "tumble home" ship's side. The advantages of such an expanding ship's side in giving more inward room and greatly increased stability are, however, obvious, while they must, on the other hand, necessarily be accompanied by greater weight of material in proportion to the increased deck surface.

The construction of the submerged stern need not make any exception from the general rule as to the exceptional strength that may be given to a vessel of this design. It must be borne in mind that the design contemplates iron or steel as the material of construction, and there cannot then exist any cause why an abundant, or, if so desired, even a superfluous degree of strength may not be given. It has already been mentioned that the tunnels for the propeller shafts, which constitute a large portion of the submerged stern, should be constructed of heavy plates of very great strength, strong enough in fact to support, in conjunction with the other part of the structure, any strain to which that part of the vessel may possibly be exposed. Such an extraordinary strain may evidently occur during a severe storm with heavy sea, when the ship's motions may be of exceptional degree; but it should be remarked that even under such circumstances the ship's stern must, during an upward motion, when the greatest strain will occur, always be accompanied by the uprising or following water from below, neutralizing to a great extent the imposed strain.

But additional strength may be given to this part of the vessel by longitudinal bulk-heads, extending along the tunnels through the submerged stern, and forming part of a system of longitudinal bulk-heads, or water-tight compartments throughout the whole length of the ship, thus imparting to the vessel an immense strength and rigidity. A great number of transverse bulk-heads will also divide the ship into water-tight compartments, and these, in connection with the longitudinal water-tight bulk-heads, should make the vessel not only extraordinarily strong, but practicably almost unsinkable.

EXPLANATION OF DRAWINGS AND MODELS.

The designs and models presented herewith differ from each other with respect to the rudders, the smaller ship having two such; and there is also a slight variation in the form of the bow. But both vessels have equally sharp lines, or the same fineness of entrance and run. The length of the small ship is 450 feet, greatest breadth 66 feet, and draught of water on the load line 23 feet, having then a displacement of 10881 tons. The larger ship has a length of 490 feet, 68 feet greatest breadth of beam, and 25 feet draught of water on her load line, with 13677 tons displacement. A schedule of dimensions and other data, together with a synopsis of the calculations, are given hereafter.

The spacious height between decks and the great width of the ship afford the requisite conditions for healthy and comfortable arrangements of cabins and state-rooms, in the fittings of which some improvements upon the usual custom might be made. As, however, any details of construction and interior fittings are extraneous to the purpose of this paper, the suggestion is here made only to point out the superior capabilities of the ship in this respect. There would be ample room for 600 first class, and 1000 second and third class passengers.

This design being for an Atlantic Mail and Passenger steamer of very high speed, she is to have very powerful engines, the weight of which, together with the coal, will occupy the greatest portion of the carrying capacity. With a complete number of passengers there will only be room left for about 600 tons of mail, specie, and other express cargo, provided that the ship is not loaded deeper than to 25 feet draught. But in all probability she would be loaded deeper than to the assumed load line when leaving port, as is customary, and if loaded to 26 or 27 feet, that would add respectively 500 or 1000 tons more cargo.

As the design especially regards the hull of the ship no details will be here given as to the engines. In this respect, however, there is no novelty contemplated, but to use the ordinary three-cylinder compound engines, which are now generally adopted in large ocean steamers.

The engines on each propeller-shaft are assumed to develop 10500 indicated horse-power, being an aggregate of 21000 indicated horse-power. The steam to be supplied by fourteen double-ended boilers of 16 feet diameter and 17 feet length, having a heating surface of over 60000 and a grate surface of 2500 square feet. The propeller to have 31 feet pitch and make, with full power, 80 revolutions per minute.

With this power the average sea speed of the ship may be expected to reach 21 knots. In calculating the speed reference will be had to the model experiments upon Mr. Froude's system, before spoken of, and the accompanying speed and power curves. It should be observed, however, that the reliability of all calculations as to the speed of steamships depends upon the proportion between the effective and the indicated horse-power, which proportion will vary for engines of different design and workmanship.

The loss of power, or the difference between the effective and the indicated horse-power, was classified by Mr. Froude as follows: (1) Augmentation of the ship's resistance by the propellers acting in the manner of a pump, as already described, sucking the water away from the imperfect run of the ordinary ship; (2) friction of the screw-blades; (3) friction of the engines running light; (4) additional friction of the engines according to the load under which they are working; and (5) the working of the air and feed pumps.

About ten years ago Mr. Froude estimated the total loss of power arising from these causes to about 60 per cent., thus assuming the effective horse-power to be only 40 per cent. of the indicated. But since then great improvements have been made in marine engines, and it is now usual, in model experiments upon Mr. Froude's system, to allow 52 per cent., or even more, as the ratio of the effective to the indicated horse-power; and a much higher percentage, fully 60 per cent., is now not unusual for ocean steamships with engines of the vertical inverted cylinder type, while in torpedo boats upwards of 75 per cent. has been reached. It has been stated already that Mr. Froude estimated the increased resistance from the action of the screw, placed as usual in ordinary single screw ships in front of the rudder close to the ship's stern, all the way from 20 to 40 per cent. of the total resistance; and he also found from his experiments, as stated in W. H. White's Manual of Naval Architecture, page 551, that when the single screw was placed one-third or one-fourth of the extreme breadth of the ship further aft, clear of the stern, the increase of resistance from the sucking action of the screw was only one-fifth of that produced in its ordinary position. As now in the ship of this design the propellers are placed in the most favorable position, not only with respect to their being far astern and free from the influence of the eddies and currents of different velocity common to ordinary ships, but also on account of their deeper immersion and consequently much greater efficiency, it may, from these reasons in connection with the late improvements in marine engines, be fairly assumed that the ratio of the effective to the indicated horse-power will not be less than 62 to 100.

But before considering the speed that will be attained by this ship as derived from the model experiments upon Mr. Froude's system before described, it will be proper to refer to other methods commonly used in calculating the speed of vessels, and among these I select that of Professor Rankine as most generally accepted. Having come to the conclusion that the principal element of resistance to a ship's progress through the water consisted in the surface friction or "frictional eddies," the aggregate amount of which must depend upon the immersed area, it was, however, evident that calculations based upon such considerations alone, could not give correct results if no account was taken of the form of the vessel. A vessel with full lines, or "bluff" bow and stern, would evidently have less immersed area than one of equal displacement with finer lines, designed for high speed, and the surface friction of the former vessel would therefore be less than that of the latter, notwithstanding that, owing to the form of the hull, the actual resistance would be greatest for the full built ship. If, however, an imaginary immersed surface were assumed, of greater area than the actual one, and the surface friction calculated accordingly, it is clear that a correct result could be obtained. The proper ratio of this assumed surface, or the "augmented surface," as it is termed, to the real one, would naturally depend upon the lines and form of the vessel, and Rankine's investigations to determine this ratio led to the following equation:

$$\text{Augmented surface (S)} = s\,(1 + 4\sin^2\varphi + \sin^4\varphi),$$

in which s is the actual immersed surface and φ the mean angle of obliquity at the bow. The term $1 + 4\sin^2\varphi + \sin^4\varphi$ is called the "coefficient of augmentation." From this equation Professor Rankine derived his formula for calculating the speed:

$$v = \sqrt[3]{\frac{C \times \text{I. H. P.}}{s\,(1 + 4\sin^2\varphi + \sin^4\varphi)}},$$

in which v is the speed of the ship in knots, s the immersed surface, I. H. P. the indicated horse-power, and C a coefficient according to the kind of immersed surface, being 20000 for an iron bottom and 21000 for a coppered one.

If we now consider this formula, substituting 20000 for C, we have:

$$v = \sqrt[3]{\frac{20000 \times \text{I. H. P.}}{s\,(1+4\sin^2\varphi + \sin^4\varphi)}},$$

and

$$v^3 s(1+4\sin^2\varphi + \sin^4\varphi) = 20000 \times \text{I. H. P.}$$

And if we now assume the immersed surface to be 20000 square feet, the speed one knot and the angle of obliquity, $\varphi, = 0^\circ$, in which case there would be no difference between the actual and the augmented surface, there being no vessel but only a surface under consideration, and insert these values in the last equation, we obtain:

$$20000 = 20000 \times \text{I. H. P., and I. H. P.} = 1.$$

It appears, consequently, that according to this formula it would take one indicated horse-power to propel a surface of 20000 square feet through the water, and as in this case there could be no other resistance than the friction, it is evident that the surface friction at the speed of one knot, as assumed by Rankine, was for 20000 square feet of surface, just sufficient to absorb one indicated horse-power. The amount of that friction is found by the equation: I. H. P. $= \frac{v\,\text{R}}{33000}$, in which v is the speed in feet per minute, and R the friction. I. H. P. being equal to 1, and the speed one knot, we have then $33000 = 101.3$ R and $\text{R} = \frac{33000}{101.3} = 325.7$. And this amount divided by 20000 gives the indicated surface friction for 1 square foot of surface $= \frac{325.7}{20000} = 0.01628$ pounds.

From what has been now said it follows that a vessel having an augmented surface, according to Rankine's formula, of 20000 square feet, would, at the speed of one knot, have an indicated resistance of 0.01628×20000 pounds, and require one indicated horse-power to be propelled at that speed. For another vessel with the augmented surface S, the indicated resistance at one knot speed would be $0.01628 \times \text{S}$. Assuming the friction resistance to increase in the ratio of the square of the velocity, the indicated resistance of the latter vessel at the speed v would be equal to $0.01628\,v^2\,\text{S}$, and the indicated horse-power required for that speed would be found by multiplying the indicated resistance by the speed in feet per minute, and dividing the product by 33000; or,

$$\text{I. H. P.} = \frac{0.01628\,v^2\,\text{S} \times 101.3\,v}{33000},$$

and

$$\text{I. H. P.} = \frac{0.01628 \times 101.3\,v^3\,\text{S}}{33000}.$$

This is Rankine's formula, only differently expressed, as will be seen at once; for from the equation we have:

$$33000 \times \text{I. H. P.} = 0.01628 \times 101.3\, v^3\, S,$$

$$v^3 = \frac{33000 \times \text{I. H. P.}}{0.01228 \times 101.3\, S} = \frac{33000}{0.01628 \times 101.3} \times \frac{\text{I. H. P.}}{S},$$

$$v^3 = 20000 \times \frac{\text{I. H. P.}}{S} = \frac{20000 \times \text{I. H. P.}}{\text{augmented surface}},$$

and

$$v = \sqrt[3]{\frac{20000 \times \text{I. H. P.}}{s\,(1 + 4 \sin^2 \varphi + \sin^4 \varphi)}}.$$

We know that Mr. Froude, through his exhaustive experiments in latter years, determined the actual amount of the friction upon surfaces of various kinds at a velocity of 600 feet per minute, and that for a surface of 50 feet length, having about the same friction as an iron ship, it was 0.250 pounds per square foot; and calculated from these data, according to the ratio of the square of the velocity, we find the coefficient of friction at one knot speed=0.007 pounds. Comparing this with the coefficient, 0.01628, we find that the effective horse-power absorbed by 20,000 square feet of surface, at the speed of one knot, must be proportionate to these numbers, or

$$\text{E. H. P.}: 1 = 0.007 : 0.01628,$$

whence the effective horse-power is equal to 43 per cent. of the indicated. Now, as this was not far from the actual proportion of effective and indicated horse-power of marine engines generally, before the improvements of later years, it follows that Rankine's formula will give practically true results for vessels having the above ratio of its effective and indicated power. But it also appears that with modern engines, giving greater percentage of useful power, Rankine's formula will give the indicated horse-power too high, or, *vice versa*, the speed too low.

This will also be found to be the case with most modern steamships. As an example may be cited the steamship Charles V, built in 1880 by Messrs. Inglis, in Glasgow, the particulars of which were published in the "Engineering" of October 1 of that year. On the trial trip she made 15.11 knots with 2062 indicated horse-power, while Rankine's formula gives for that power a speed of only 13.93 knots, there being a difference of 1.18 knots; or the actual speed proved to be over 8 per cent. higher than as calculated according to Rankine. And some of the new, large, and powerful Atlantic steamships showed even a greater difference at their trial trip. The higher speed thus now obtained for a certain indicated horse-power by steamships lately built is mainly due to the improvements in the engines, and it would almost seem as though the speed of these ships, calculated according to Rankine's formula, would come very near their average sea speed.

But there is yet another important cause why the above formula will give the speed too low or the indicated horse-power too high, the mention of which should not be omitted. It will be seen by examining the equation that the coefficient of augmentation affects the whole wetted surface of the ship, while, evidently, two or more vessels having exactly similar entrance and run, and consequently the same coefficient of augmentation, may have such form amidships that the difference in their

respective resistance will be equal to the difference in surface friction only. With long and narrow ships, having parallel middle bodies of great length, there was from the wave theory, first so admirably demonstrated by Scott Russel, good reason why the whole immersed surface should be thus augmented. But with ships of better form for high speed, having little or no middle body at all, that is to say, where the entrance of the vessel ends just where the run commences, as in the present design, there will be no waste of power in creating the series of oblique divergent waves, the formation of which is, with the ordinary ship, a cause of permanent resistance. And from this reason it is clear that Rankine's formula will, for a ship of this design in particular, give considerably less speed for any given power than what may reasonably be expected.

The limit of this paper will only permit the brief account now given of Professor Rankine's method of calculating the speed and indicated horse-power of steamships, which, as the result of profound scientific research, will always maintain a high rank.

The calculation according to Rankine's formula of the speed of the larger ship, the design of which accompanies this paper, is as follows:

$$\text{Immersed surface} = 44660 \text{ square feet} = S;$$

$$\text{Mean angle of obliquity} = 7^\circ = \varphi;$$

$$v = \sqrt[3]{\frac{20000 \times \text{I. H. P.}}{s\,(1 + 4 \sin^2 \varphi + \sin^4 \varphi)}};$$

$\sin 7^\circ = 0.12186$; $\sin^2 \varphi = 0.01485$; $4 \sin^2 \varphi = 0{,}05740$

$\sin^4 \varphi = 0.00022$

1.00000

Coefficient of augmentation . . . . . $= 1.05762$

Augmented surface . . . . . $= 44660 \times 1.05762 = 47233$

$$v = \sqrt[3]{\frac{20000 \times 21000}{47233}} = \sqrt[3]{8892} = 20.72;$$

or

$$\text{Speed} = 20.72 \text{ knots.}$$

According to the wave theory of Mr. Scott Russel, the proper limit for the speed of a ship is expressed by the equation:

$$V = \sqrt{L_1 + L_2};$$

in which V is the speed of the ship in knots and L_1 and L_2 the respective lengths of entrance and run. Applying this equation to the ship of this design, in which $L_1 + L_2$ is equal to the whole length of the ship, or 490 feet, we obtain:

$$V = 1.03 \sqrt{490} = 1.03 \times 22.136 = 22.8 \text{ knots.}$$

Referring now to the model experiments upon Mr. Froude's system and the resistance and power curves relating thereto, which accompany this paper, it will be remembered that they were obtained from experiments with a model of the smaller ship. The design of the larger ves-

sel was recently made, and there has been no opportunity for such experiments with a model of that ship. The designs of these two vessels are, however, similar as to lines and fineness of entrance and run, and it may therefore be assumed that the difference of their resistance will be equal to the difference of their surface friction. The larger ship has 6620 square feet greater immersed surface than the smaller one. In calculating the effective horse-power for the larger ship from the resistance curve of the smaller ship's model, say for the speed of 22 knots, the friction on 6620 square feet of surface at that speed should be added to the resistance of the smaller ship as obtained by the equation $R = r\left(\frac{L}{l}\right)^3$. The friction at the speed of 22 knots, calculated according to the coefficient and index of power determined by Mr. Froude, is 2.4297 pounds per square foot, which, multiplied by 6620, gives 16084.6 pounds. By measuring on the resistance curve of the model, or referring to the table, it will be found that the resistance, r, of the model at the corresponding speed was 1.6695 pounds, which, inserted in the above equation (in which $L = 450$ and $l = 10$), gives:

$$R = 1.6695 \times (45)^3 \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad . \quad = 152133.2$$
$$\text{Adding the friction on 6,620 square feet} = \ 16084.6$$
$$\text{Resistance of the larger ship} \quad . \quad . \quad . \quad = 168217.8 \text{ pounds.}$$

And the equation $\text{E. H. P.} = \frac{VR}{33000}$ gives:

$$\text{Effective horse-power} = \frac{168217.8 \times 2229.3}{33000} = 11364.$$

The same result will, of course, be obtained by adding the E. H. P. corresponding to the greater surface friction for the larger ship to the E. H. P. for the smaller one at 22 knots' speed. By measuring on the power curve, or referring to the previous table, that power is found to be 10277.4, and the E. H. P., corresponding to the augmented friction, obtained by the equation: $\text{E. H. P.} = \frac{RV}{33000}$ is $= \frac{16084.6 \times 2229.3}{33000} = 1087$, which, added to 10277, gives the E. H. P. for the larger ship = 11364, as before.

The ratio of the effective to the indicated horse-power being, as before assumed, as 62 to 100, the indicated horse-power required for a speed of 22 knots will then be equal to

$$\frac{11364}{0.62} = 18329.$$

For a speed of 18 knots, the smaller ship, as found by the power curve, requires 4895.7 effective horse-power. The friction on 6620 square feet of surface at that speed is 11141 pounds, which demands 614.8 E. H. P., and the effective horse-power required by the larger ship for 18 knots' speed will therefore be = 4895.7 + 614.8 = 5510.5. The indicated horse-power would then be

$$= \frac{5510}{0.62} = 8888.$$

As the engines of only one propeller will develop 10500 indicated *horse-power, it* follows that in case of an accident happening to one

propeller shaft, the remaining propeller would still give a speed of over 18 knots.

The full engine power on both propellers being 21000 indicated horse-power, while the power required for a speed of 22 knots is, as shown above, 18329 I. H. P., a yet higher speed will probably be attained in smooth water with full engine power. This speed, according to the curves aforesaid, would be 22.6 knots, and an average sea speed of about 21 knots may consequently be expected.

In examining these designs, it may appear as though the immersed surface would be considerably increased by the submerged stern. It has been shown in the foregoing that, with low speeds, the surface-friction constitutes the greatest part of the resistance, and the question of more or less wetted area must, therefore, in such cases, be of great importance; but when high speeds are contemplated, that importance becomes less conspicuous, while the other elements of resistance assume greater porportions. Now, as these ships, the designs of which are presented herewith, are intended for very high speed, the element of surface-friction is no longer a matter of primary consideration, since the form of the vessel, which alone can make such a high speed possible, must here be of the first importance. It should also be observed, that the submerged stern, and the consequent great width of the lower hull towards the stern, greatly adds to the displacement, and proper investigation will show that the actual wetted surface of a ship of this design does not materially differ from that of an ordinary vessel of equal displacement, while, when the fineness of the lines or the sharpness of the entrance and run is taken into consideration, as it should be, and as is done in calculating the augmented surface according to Rankine, a ship upon this design has greatly the advantage.

It need hardly to be remarked that a sharp ship must have a greater immersed area for the displacement than one with fuller lines; and that a ship with twin screws must have a greater wetted surface than one of equal displacement with a single screw. Any fair comparison in this respect requires the vessels to be of about equal sharpness, and to have the same number of propellers. Let us, however, compare the ship of this design with the British dispatch-ship Iris, a twin screw vessel, and the fastest ship in the English Navy. In order to make such a comparison practicable we must first bring both vessels to equal displacement, and we will then assume that the Iris were enlarged to 13677 tons, as is the displacement of this ship, after which their immersed areas may be compared.

As stated in the paper by Mr. J. Wright to the Institution of Naval Architects, London, April 4, 1879, reprinted in the Navy Scientific Papers, No. 12, the Iris had, with 3290 tons displacement, a wetted surface of 18600 square feet. As, now, similar bodies are to each other as the cube of their respective dimensions, and their areas as the square of those dimensions, and letting d represent the displacement of the ship before the enlargement, D, the displacement after being enlarged, a, the area of the wetted surface before the enlargement, A, the area after being enlarged, l and L the respective dimensions:

$$d : D = l^3 : L^3; \qquad a : A = l^2 : L^2;$$

$$\sqrt[3]{d} : \sqrt[3]{D} = l : L; \qquad \sqrt{a} : \sqrt{A} = l : L, \text{ and} \qquad \sqrt{a} : \sqrt{A} = \sqrt[3]{d} : \sqrt[3]{D}$$

whence:

$$\sqrt{\frac{A}{a}} = \sqrt[3]{\frac{D}{d}}; \quad \frac{A}{a} = \left(\sqrt[3]{\frac{D}{d}}\right)^2; \quad \frac{A}{a} = \left(\frac{D}{d}\right)^{\frac{2}{3}}; \text{ and } A = a\left(\frac{D}{d}\right)^{\frac{2}{3}}.$$

Inserting the values in this equation, we obtain the immersed of the enlarged ship:

$$A=\left(\frac{13677}{3290}\right)^{\frac{2}{3}};$$

Log. 13677 = 4.1359885
Log. 3290 = 3.5171959

0.6187926
$\frac{1}{3}$ = 0.2062642
× 2 = 0.4125284
Log. 18600 = 4.2695129

Log. A = 4.6820413
A = 48088 square feet.

It thus appears that the Iris, if expanded to the displacement o ship, would have 48088 square feet of wetted surface, while the of this design has only 44660; and it should be observed that thi ference of over 3400 square feet in favor of this ship would be greater if the Iris had equally fine lines as this vessel, or if the mented surfaces of the two vessels were compared.

As before mentioned, any comparison of this nature between a screw ship and one with a single propeller must always be grea the disadvantage of the former, but we will, however, now compar ship with the single screw steamer Charles V, before referred vessel of very fine model and one of the sharpest merchant ships a The displacement of the Charles V, as stated in Engineering of ber 1, 1880, was on her trial trip 2478 tons and her augmented su 15266 square feet:

Log. 13677 = 4.1359885
Log. 2478 = 3.3941013

0.7418872
$\frac{1}{3}$ = 0.2472957
× 2 = 0.4945914
Log. 15266 = 4.1837253

Log. A = 4.6783167
A = 47678 square feet.

The augmented surface of this ship is 47233 square feet, bein square feet less. If the Charles V were a twin screw ship, the ence would, of course, have been much greater.

CONCLUSION.

In concluding this paper I would add that a ship upon my de combining as it does the finest lines for high speed with greater ing capacity than the ordinary vessel, also greater stability and s ness in a sea-way, greatly increased handiness or quickness in an ing the helm, and giving at the same time greater safety and comf sea, must be for mercantile purposes not only vastly superior in respect to the common type of ship, but that it possesses, also, in h degree than a vessel of the ordinary form, all the qualities desirab a ship of war.

SCHEDULES AND CALCULATIONS.

Schedule of dimensions and other data relating to the smaller steamship.

Length of hull below water on the plane of greatest breadth	feet	450.0
Greatest breadth	do	66.0
Length on load water-line	do	444.0
Breadth on load water-line	do	58.0
Draught of water at load water-line	do	23.0
Length over all, on upper deck	do	475.0
Breadth on upper deck at greatest transverse section (outside of frames)	do	62.0
Depth from top of upper deck beam to bottom plating	do	41.0
Height between the upper and second decks	do	9.0
Height between the second and third decks	do	9.0
Height between third and orlop decks	do	8.0
Area of geatest immersed transverse section	square feet	1412.0
Coefficient of greatest immersed transverse section		0.9303
Area of load water-plane	square feet	15255.0
Coefficient of load water-plane		0.5924
Displacement to load water-line	cubic feet	380836.0
Coefficient of fineness of displacement		0.5574
Horizontal distance of Center of Buoyancy from the submerged stern	feet	225.326
Depth of Center of Buoyancy below the load water-plane	do	11.446
Height of Meta Center above Center of Buoyancy	do	7.469
Height of Meta Center above Center of Gravity of the ship when fully equipped and loaded	feet	3.458
Height of Meta Center above Center of Gravity of the ship at 14 feet draught of water, supposing her to have no cargo, coal, stores, water, or ballast, and no water in the boilers, but otherwise completely fitted and fully rigged	feet	5.060
Height of Meta Center above Center of Gravity of the ship at 9.6 feet draught of water, the hull being complete, with masts in and rigged, but empty, without engines and boilers	feet	11.389
Surface of upper deck (outside of frames)	square feet	23641
Surface of second deck (outside of frames)	do	17884
Surface of third deck (outside of frames)	do	15256
Immersed surface to load water line	do	38040
Angle of obliquity of load water-line at the bow		6° 0′
Angle of obliquity at the stern		6° 30′
Mean angle of obliquity at entrance		7° 0′

The ship supposed to be built of steel, and to have engines developing 18000 indicated horse-power, being 9000 indicated horse-power on each propeller.

Schedule of dimensions and synopsis of calculations relating to the larger steam sh

Length of hull below water on the plane of greatest breadth	feet	
Greatest breadth	do	
Length on load water-line	do	
Breadth on load water-line	do	
Draught of water at load water-line	do	
Length over all on upper deck	do	
Breadth on upper deck at greatest transverse section (outside of frames)	do	
Depth from top of upper deck beam to bottom plating	do	
Height between upper and second decks	do	
Height between second and third decks	do	
Height between third and orlop decks	do	
Area of greatest immersed transverse section	square feet	
Coefficient of greatest immersed transverse section		
Area of load water-plane	square feet	1
Coefficient of load water-plane		
Displacement to load water-line	cubic feet	47
Coefficient of fineness of displacement		
Horizontal distance of Center of Buoyancy from the submerged stern	feet	2
Depth of Center of Buoyancy below the load water-plane	do	
Height of Meta Center above Center of Buoyancy	do	
Height of Meta Center above Center of Gravity of the ship when fully equipped and loaded	feet	
Height of Meta Center above Center of Gravity of the ship at 15.5 feet draught of water, supposing her to have no cargo, coal, stores, water, or ballast, and no water in the boilers, but otherwise completely fitted and fully rigged	feet	
Height of Meta Center above Center of Gravity of the ship at 10.4 feet draught of water, the hull being complete, with masts in and rigged, but empty, without engines and boilers	feet	
Surface of upper deck (outside of frames)	square feet	
Surface of second deck (outside of frames)	do	
Surface of third deck (outside of frames)	do	
Immersed surface to load water-line	do	
Angle of obliquity of load water-line at the bow		
Angle of obliquity at the stern		
Mean angle of obliquity at entrance		

Calculation of the displacement by the frames.

Area of frame No. 1= 23.0×1	23.0
No. 2= 93.9×4	375.6
No. 3=186.7×2	373.4
No. 4=289.5×4	1158.0
No. 5=394.8×2	789.6
No. 6=487.2×4	1948.8
No. 7=572.0×2	1144.0
No. 8=655.5×4	2622.0
No. 9=698.0×2	1396.0
No. 10=740.7×4	2962.8
No. 11=769.8×2	1539.6
No. 12=7~8.5×4	3154.0
No. 13=795.4×2	1590.8
No. 14=785.0×4	3140.0
No. 15=766.6×2	1533.2
No. 16=735.6×4	2942.4
No. 17=687.8×2	1375.6
No. 18=628.0×4	2512.0
No. 19=553.9×2	1107.8
No. 20=474.1×4	1896.4
No. 21=359.7×2	719.4
No. 22=255.3×4	1021.2
No. 23=157.6×2	315.2
No. 24= 67.0×4	268.0
No. 25= 7.5×1	7.5
	35916.3
	20
	3)718326.0
	239442.0
rt aft of frame No. 1	+214.0
rt fore of frame No. 25	+ 12.0
One-half displacement.....cubic feet..	239668.0

Calculation of the displacement by the water-planes.

One-half water-plane	0 at 0 feet draught	=0000. 0×1	0(
	0½ at 1	=7106. 1×4	2(
	0¾ at 2	=8358. 4×2	1(
	0⅞ at 3	=9182. 3×4	3(
	A at 4	=9824. 1×1	9
			91
One-half cubic content of part 0—A=⅓ (interval between water-planes = 1)			3(
One-half water-plane	A at 4 feet draught	= 9824. 1×1	9
	A½ at 6	=10678. 0×4	4(
	B at 8	=11219. 3×2	2(
	B½ at 10	=11249. 1×4	4(
	C at 12	=10582. 0×2	2(
	C½ at 14	=10052. 0×4	4(
	D at 16	= 9614. 8×2	1(
	D½ at 18	= 9264. 2×4	3(
	E at 20	= 9008. 6×2	1(
	E½ at 22	= 8809. 8×4	3(
	F at 24	= 8703. 5×1	8
			29(
299589. 4×2 (interval between the water-planes)			59(
			Cub
One-half cubic content of part A—F		=⅓=	19(
One-half cubic content part 0—A			3(
One-half cubic content part A—F			19(
Part aft of water-planes			
One-half displacement			23(
One-half displacement by frames			23(
Mean ½ displacement			23(

Displacement=478716. 6 cubic feet=13677. 6 tons.

Calculation of the horizontal position of the Center of Buoyancy.

Frame No. 1.	Function of frames =	23.1× 0	00000.0
No. 2.		375.6× 1	375.6
No. 3.		373.4× 2	746.8
No. 4.		1158.0× 3	3474.0
No. 5.		789.6× 4	3158.4
No. 6.		1948.8× 5	9744.0
No. 7.		1144.0× 6	6864.0
No. 8.		2622.0× 7	18354.0
No. 9.		1396.0× 8	11168.0
No. 10.		2962.8× 9	26665.2
No. 11.		1539.6×10	15396.0
No. 12.		3154.0×11	34694.0
No. 13.		1590.8×12	19089.6
No. 14.		3140.0×13	40820.0
No. 15.		1533.2×14	21464.8
No. 16.		2942.4×15	44136.0
No. 17.		1375.6×16	22009.6
No. 18.		2512.0×17	42704.0
No. 19.		1107.8×18	19940.4
No. 20.		1896.4×19	36031.6
No. 21.		719.4×20	14388.0
No. 22.		1021.2×21	21445.2
No. 23.		315.2×22	6934.4
No. 24.		268.0×23	6164.0
No. 25.		7.5×24	180.0
		35916.3	425947.6

$$\frac{425947.6}{35916.3} = 11.8595$$

Center of part frame 1—25 distant from 1 = 20×11.8595 = 237.19 feet.
Center of part frame 1—25 distant from submerged stern = 247.19 feet.

Cubic content of part 1—25=	239442.0×247.19 = moment	59187668
Cubic content of part aft frame 1	214.0× 6.0	1284
Cubic content of part fore frame 25	12.0×492.0	5904
	239668.0	59194856

Center of Buoyancy distant from submerged stern $= \frac{59194856}{239668} = 246.987$ feet.

Calculation of the vertical position of the Center of Buoyancy.

Function of water-plane 0 at 0 feet draught =	00000.0×0	.....	00000.0
0¼ at 1	28424.4×1	.....	28424.4
0½ at 2	16716.8×2	.....	33433.6
0¾ at 3	36729.2×3	.....	110187.6
A at 4	9824.1×4	.....	39296.4
	91694.5		211342.0

Center of part 0—A distant from 0 = $\frac{211342.0}{91694.5}$ = 2.305 feet.

Center of part 0—A distant from load water-plane = 22.695 feet.

Function of water-plane A at 4 feet draught =	9824.1× 0	.....	00000.0
A½ at 6	42712.0× 1	.....	42712.0
B at 8	22438.6× 2	.....	44877.2
B½ at 10	44996.4× 3	.....	134989.2
C at 12	21164.0× 4	.....	84656.0
C½ at 14	40208.0× 5	.....	201040.0
D at 16	19229.6× 6	.....	115377.6
D½ at 18	37056.8× 7	.....	259397.6
E at 20	18017.2× 8	.....	144137.6
E½ at 22	35239.2× 9	.....	317152.8
F at 24	8703.5×10	.....	87035.0
	299589.4		1431375.0

Center of part A—F distant from A = $\frac{2\times1431375.0}{299589.4}$ = 9.556 feet.

Center of part A—F distant from load water-plane = 11.444 feet.

Cubic content of part water-plane 0—A =	30564.8×22.695 = mom. =	.	693668
Cubic content of part water-plane A—F	199726.3×11.444	....	2285668
Cubic content of part water-plane F—l.w.pl.	8650.5× 0.5	....	4325
Cubic content of part aft of water-planes	107.0×14.0	....	1498
	239048.6		2985159

Center of Buoyancy distant from load water-plane = $\frac{2985159}{239048}$ = 12.487 feet.

Calculation of the height of Meta Center above the Center of Buoyancy.

Frame No. 1	Ord. = 0.0	Cube of ord. = 0000.0×1		0000.0
No. 2	2.1	9.2×4		36.8
No. 3	5.2	140.6×2		281.2
No. 4	8.9	705.0×4		2820.0
No. 5	12.7	2048.4×2		4096.8
No. 6	16.6	4574.3×4		18297.2
No. 7	20.2	8242.2×4		16484.8
No. 8	23.3	12649.3×4		50597.2
No. 9	26.0	17576.0×2		35152.0
No. 10	27.8	21484.9×4		85939.6
No. 11	29.0	24389.0×2		48778.0
No. 12	29.7	26198.0×4		104792.0
No. 13	30.0	27000.0×2		54000.0
No. 14	29.6	25934.3×4		10373.2
No. 15	28.9	24137.6×2		48275.2
No. 16	27.6	21024.6×4		84098.4
No. 17	25.8	17173.5×2		34342.0
No. 18	23.4	12812.9×4		51251.6
No. 19	20.4	8489.7×2		16979.4
No. 20	16.9	4826.8×4		19307.2
No. 21	13.0	2197.0×2		4394.0
No. 22	8.9	705.0×4		2820.0
No. 23	5.3	148.9×2		297 8
No. 24	2.4	13.8×4		55.2
No. 25	0.4	0.1×1		0.1
				786838.7
				20
				3)15736774.0
				5245591.3

Moment of inertia of load water-plane ..... $\frac{1}{3}$ = 3497060.9

(Displacement = 478716 cubic feet.)

Meta Center above Center of Buoyancy $= \frac{3497060.9}{478716.6} = 7.305$ feet.

The ship is supposed to be constructed of steel, with the grea strength and solidity throughout, and with that object in view n of its component parts are assumed exceptionally heavy. Longitud bulkheads of 1 inch thickness run the whole length of the vessel, tending up to the second deck, or 9 feet above the load water-line, which, in addition to numerous transverse bulkheads or water-t compartments, will keep the ship afloat under all probable contingen or make her practically unsinkable.

Space not permitting to insert the computations at length, regar the center of gravity of the ship, the results only are given, as foll

Calculation of the vertical height of the Center of Gravity of the ship and the Meta C height on 25 feet draught of water, the ship having then a full complement of passe 3200 tons coal, and 611 tons express cargo.

	Weight.	Distance of Center of Gravity from load water-line.	Moments.	
			Below load water-line.	Abov wate
	Tons.		*Foot-tons.*	*Foot*
Ship's hull, with decks	5171.0	5.7	29474.0	.....
Masts, sails, and rigging	80.0	70.0	.....	
On upper deck: Anchors and cables, deck-houses, winches, boats, galleys, steering apparatus, &c.	171.8	23.0	.....	
On second deck: Cabin fittings, &c.	123.0	13.8	.....	
On third deck: Cabin fittings, &c	130.2	5.0	.....	
On orlop deck: Fittings for third-class passengers, &c	30.0	4.2	126.0	.....
Chains and cables and hawsers, besides those on upper deck	40.0	17.0	680.0	.....
Watertanks and water	120.0	16.7	2004.0	.....
Stores, provisions, &c	100.0	.....	.....	.....
Engines, boilers and water, funnels and ventilators	3700.0	14.3	52910.0	.....
Coal in bunkers	2400.0	12.7	30480.0	.....
Coal in the hold	800.0	14.8	11840.0	.....
Crew, passengers, and luggage	200.0	3.6	.....	
Express cargo	611.0	8.9	5437.9	.....
	13677.0	.....	132951.9	1
			12619.8	
			120332.1	

Center of Gravity of the ship below load water-line ..... $\frac{120332.1}{13677} =$

Center of Buoyancy below load water-line 1

Center of Gravity above Center of Buoyancy .....

Meta Center above Center of Buoyancy .....

Meta Center above Center of Gravity of the ship .....

Calculation of the Meta Centric height at 15.5 feet draught of water, the ship having no cargo, coal, stores, water, or ballast, and no water in the boilers, but otherwise completely fitted and fully rigged.

Displacement at 25 feet draught		13677 tons		mom.=120332 foot-tons.	
Cargo	611 tons		mom.=	2438	
Coal	3200 tons		mom.	42320	
Stores	100 tons		mom.		
Water and tanks	120 tons		mom.	2004	
Water in boilers	700 tons		mom.	10150	
Crew, pass., and lugg.	200 tons	720			
	4931	4931		56912	
				720	
				56192	56192

Displ. at 15.5 feet = 306110 cub. feet = 8746 tons ..... mom= 64120

Center of Gravity below load water-line, at 25 feet draught, $=\frac{64120}{8746}=7.333$ feet.

Water plane A	= 9824.0×1=	9824.0×0	00000
A½	10678.0×4	42712.0×1	42712.0
B	11219.3×2	22438.6×2	44877.2
B½	11249.1×4	44996.4×3	134989.2
C	10582.0×2	21164.0×4	84656.0
C½	10052.0×4	40208.0×5	201040.0
D	9614.8×1	9614.8×6	57688.8
		190957.8	565963.2
		2	
		381915.6	

Cubic contents A — D = ½ = 127305.2

Center of A—D distant from A $=\frac{2\times565963.2}{190957.8}=5.927$ feet.

Center distant from load water-line=21—5.927=15.073.

Cubic contents	A—D=127305.2	mom.=	1918871.3
Cubic contents	15.5—D= 4922.0	mom.	45568.4
Cubic contents	15.5—A=122383.2		1873302.9
Cubic contents	O—A= 30564.8		693668.1
Cubic contents aft of water-plane	107.0		1498.0
One-half displacement to	15.5=153055.0		2568469.0

Center of Buoyancy below load water-line, at 25 feet draught $=\frac{2568469}{153055}=16.781$ feet.

Frame No. 1.	Ord. 0.0	Cube of ord.	0.0×1	000000.0
No. 2	2.6		17.5×4	70.0
No. 3	6.8		314.4×2	628.8
No. 4	11.2		1404.9×4	5619.6
No. 5	15.5		3723.8×2	7447.6
No. 6	19.7		7645.4×4	30581.6
No. 7	23.3		12649.3×2	25298.6
No. 8	26.3		18191.4×4	72765.6
No. 9	28.6		23393.6×2	46786.2
No. 10	30.0		27000.0×4	108000.0
No. 11	31.5		31255.8×2	62511.6
No. 12	32.4		34012.2×4	136048.8
No. 13	32.5		34328.1×2	68656.2
No. 14	32.3		33698.2×4	134792.8
No. 15	31.3		30664.3×2	61328.6
No. 16	30.0		27000.0×4	108000.0
No. 17	28.2		22425.7×2	44851.4
No. 18	25.7		19974.6×4	79898.4
No. 19	22.6		11543.2×2	23086.4
No. 20	19.1		6967.8×4	27871.2
No. 21	15.0		3375.0×2	6750.0
No. 22	10.8		1259.7×4	5038.8
No. 23	6.7		300.7×2	601.4
No. 24	3.2		32.7×4	130.8
No. 25	0.3		0.1×1	0.1
				1056764.5
				20
				3)21135290.0
				7045096.7

Moment of inertia of water-plane ..... $=\frac{I}{3}=4696731.1$

$$\text{Meta Center above Center of Buoyancy}=\frac{4696731}{306110}=15.343 \text{ feet.}$$

Meta Center above Center of Buoyancy	15.343 feet.
Meta Center below load water-line	1.438
Center of Gravity below load water-line	7.333
Meta Center above Center of Gravity	5.895 feet

Calculation of the Meta Centric height at 10.4 feet draught of water, the ship being empty and without engines and boilers but fully rigged.

Displacement at 25 feet draught		13677 tons		mom.=		120332 foot-tons
Cargo	611 tons		mom.=	2438		
Coal	3200 tons		mom.	42320		
Stores	100 tons		mom.			
Water and tanks	120 tons		mom.	2004		
Engines and boilers	3700 tons		mom.	52910		
Crew, pass. and lugg.	200 tons		mom.		720	
	7931	7931		99672		
				720		
				98952		98952
Displ. at 10.4 feet=201110 cubic feet		=5746 tons		mom.=		21380

Center of Gravity below load water-line, 25 feet draught $=\frac{21380}{5746}=3.720$ feet.

Water-plane A =	9824.0×1=	9824.0×0	00000.0
A½	10678.0×4	42712.0×1	42712.0
B	11219.3×2	22438.6×2	44877.2
B½	11249.1×4	44996.4×3	134989.2
C	10582.0×1	10582.0×4	42328.0
		130553.0	264906.4
		2	
		261106.0	
Cubic contents A—C = ½ =		87035.3	

Center of A—C, distant from A $=\frac{2\times264906.4}{130553.0}=4.058$ feet.

Center distant from load water-line =16.942 feet.

Cubic contents	A—C=87035.3	mom.=	1474552.0
Cubic contents	10.4—C=17152.1×13.77		236186.4
Cubic contents	10.4—A=69883.2	mom.=	1238365.6
Cubic contents	0—A=30564.8		693668.1
Cubic contents aft of water-plane	107.0		1498.0
One-half displacement to	10.4=100555.0	mom.=	1933531.7

Center of Buoyancy below load water-line, 25 feet draught $=\frac{1933531.7}{100555.0}=19.226$ feet.

SOME REMARKS UPON AND EXTRACTS FROM BEAUFOY'S NAUTICAL EXPERIMENTS.

The great problem of determining the most suitable form of vessel for dividing the water with the greatest facility, or, in other words, to discover and design the shape of the body that would meet with the least possible resistance when impelled through the water by the force of sails or machinery, has, during all ages, engaged the attention of scientific and practical men among the sea-faring nations of the globe. If, however, the question should be put whether there has been any real progress made within the last thousand years toward the solution of the problem, the answer would be doubtful; or, rather, it would hardly be safe to reply in the affirmative. To the great majority of people this statement may possibly appear highly improbable, accustomed as we have been made, in this age of wonderful discoveries and inventions, to look for improvement as a matter of course in every branch of human pursuit; but it is nevertheless based upon such facts as to make it perfectly tenable. The ships of the present day surpass those of the ancients in size, and, as a natural consequence, also in endurance and power to defy the gales and seas of the ocean; but mere increase of size does not by any means also imply improvement in shape. Besides, it is well known that in ancient times, long before the Christian era, there were ships built which in point of magnitude might be compared with even the greatest vessels of the present day.

The accounts that have reached us of those ancient vessels of the Phœnicians, the Egyptians, the Sicilians, the Greeks, and the Romans, are, however, altogether too meager to enable us to form anything but an approximate idea of the form of the ship's hull and the proportion of its dimensions. But it may be assumed with considerable probability that the proportions did not differ very much from those of the sailing ship of the present age.

The Vikings of the Scandinavian peoples, who for centuries were a terror to all the European nations bordering on the sea-coasts, who conquered England and erected independent powers in France and Italy, possessed, no doubt, the fleetest and best constructed vessels then existing, enabling them to grasp and for a long time retain the mastery of the seas. It was the custom, when any one of those sea kings died, to inter him together with his favorite ship, which was dragged on shore and a huge mound of earth raised around and over it. There are many such to be found about the numerous inlets and fjords of the Scandinavian peninsula, particularly Norway, but explorations generally proved, as expected, that the many centuries had done their work, leaving the decayed *débris* of the craft only, thus making it impossible to form but a crude idea of the form of the vessel. Four years ago, however, one of these explorations in Norway proved more successful. Owing to some exceptional circumstances it happened that the wood had been preserved in a surprising degree, and the old sea king's "drake" (as the Viking ships were termed) was found nearly intact and resurrected from its sleep of a thousand years. The scientific papers and periodicals of the time had descriptions of the vessel, which now has its place in the University of Christiania. It is not intended to repeat that description here, but it may be mentioned that the dimensions are: length, 74; greatest beam, 16½, and draught of water probably about 8 feet. It will be seen that the proportion of

these dimensions do not materially differ from those of the best sailing ships of the present day; but what strikes the beholder with surprise and admiration is the beautiful form of its hull. Its lines are admirable for speed, carrying capacity, and stability, and will compare favorably in these respects with the best designed ship of this day.

During the latter part of the last century and the beginning of the present one, several of the most profound mathematicians the world has produced appeared to direct their genius to the problem of determining the law governing the motion of fluids and the resistance to bodies moving through them.

D'Alembert, De Condorcet, Bossut, and De Borda, in France, and Euler, in Germany, devoted much labor to the subject, and the celebrated Chapman, in Sweden, the ablest naval architect of that period, carried out a series of experiments by order of the government.

The effect of these efforts soon showed itself, for France and Sweden produced the best and fastest ships, and this circumstance, which was too plainly seen to be ignored, soon roused, as might be expected, the ambition of the English not to be behind in acquiring knowledge upon a subject, which was apparently of more importance to them than to any other nation.

In the preface to Colonel Beaufoy's works it is said:

In a maritime and commercial country like Great Britain it is evident that the most effectual management of its naval strength must constitute an object of the first magnitude and importance. As the fleets of a kingdom so circumstanced are the foundation of its consequence among neighboring nations and the defense of its commerce in time of war, it must follow as an undeniable truth that the safety, the prosperity, and even the existence of its commerce must very much depend on the excellent construction of the ships in its service.

It is but too well known to all who have any skill in naval architecture that the theory is not so well understood as it deserves; and the Swedes and French actually surpassing the English in this most important art; the French having derived many advantages from this superiority in time of war.

Now, in a country so fertile as Great Britain in men of genius, where the most skillful and industrious workmen are always to be found, and the best materials to be procured, nothing but public encouragement and a firm union of theoretical and practical ability can be wanting to produce the desired remedy, and to enable England to excel not only her neighbors, the French, but all other maritime countries, in constructing ships of war and merchantmen.

For these reasons, and in order most effectually to accomplish so desirable a purpose, it was proposed to establish "A Society for the Improvement of Naval Architecture," the grand object of which should be to improve and strengthen the Royal Navy of Great Britain and her shipping in general for the benefit of the public and merchant service.

A meeting, in consequence of public advertisement, was accordingly held on 14th April, 1791, to take into consideration the expediency of instituting "A Society for the Improvement of Naval Architecture." It was attended by a numerous company of noblemen and gentlemen, when it was unanimously agreed:

That the theory and art of shipbuilding, being objects of the first magnitude and importance to these kingdoms, are not so well understood in this country as matters of so much consequence deserve, and a remedy for this radical deficiency merited the attention of every well-wisher to the true interests of Great Britain.

That the most effectual remedy for this deficiency would be to concentrate the theoretical and practical wisdom of this country by the institution of a society for the improvement of naval architecture.

That such a society is instituted under the direction of a president, vice-presidents, and other officers, and that his royal highness, the Duke of Clarence, be requested to accept the office of president, and to lay the plan of it before His Majesty.

The society resolved, by the assistance of their own members and other gentlemen properly qualified, to make a series of experiments on the resistance of water upon a much more extensive scale than any which had yet been made in this or any other country.

The Greenland dock was fixed upon as the largest and most convenient piece of still water for the purpose near London.

The society, which counted among its members the most scientific *men in* Great Britain, unanimously chose Colonel Beaufoy to conduct the

experiments. And this trust he fulfilled with greatest possible zeal, never absenting himself for a single day when the experiments were made during all the years that they lasted.

Colonel Beaufoy was eminently qualified for this task; a scientist of high attainments and enthusiastically devoted to the work entrusted to him, with the nature of which he was well acquainted, having previously made elaborate experiments with a pendulum swinging in water, with small bodies of different shape attached, for the purpose of finding their comparative resistance.

These experiments are of great scientific interest, and the most important conclusion drawn from them was that the resistance was least when the greatest breadth of the moving body was placed at a distance of two-fifths of the length from the fore end.

As, however, the bodies experimented upon with the pendulum were very small, and the line of motion arched instead of straight, and at different depths of water, the practical value of these experiments is necessarily lessened, and the object of the present paper is, therefore, to speak more particularly of the experiments made in Greenland dock.

These experiments were commenced in 1793, and continued during the following six years, until 1798; and over ten years more were required to conclude the necessary calculations and prepare the work for publication. It then became known that similar experiments had been made in Sweden by Lagerhjelm, Forselles, and Kallstenius, who sent copies of the volume containing their researches to Colonel Beaufoy. It was then determined to have the Swedish work translated into English, and published together with Colonel Beaufoy's experiments, but obstacles came in the way causing yet further delay in the publication. Colonel Beaufoy died in 1827, bequeathing his manuscripts to his son, who determined to publish them in a separate volume, which was done at last in 1834. Only a limited number of copies were printed and presented to foreign governments and learned societies. The work being thus very rare, and accessible to the public only in a few public libraries, accounts for its being known only to a limited number of readers. The practical deductions that may be drawn from these experiments are of so great importance that if they had been more generally known and digested, there is every probability that naval architecture would have profited far more by them than is now the case.

There were between nine and ten thousand experiments made during those years. In that particular branch of hydrostatics they stand without a parallel, not only as to extent but also as to accuracy, for they were executed with the utmost attention to every detail that could have any influence on the result, which was corrected accordingly. The most eminent mathematicians in the country, among whom may be mentioned the celebrated Dr. Hutton, assisted in planning the mode of conducting the experiments, and the latter in particular revised the mode of calculations. It should also be observed that the experiments were made with bodies of much larger size than commonly used in similar investigations, and the velocities reached were also considerably greater, both circumstances of great importance in obtaining reliable practical results.

The bodies were drawn through the water by a rope running through a series of blocks acted upon by weights, the number of which blocks varied for the different velocities. By a simple device, the velocity of the body for each second was accurately measured within the hundredth part of a foot by a pendulum causing a pencil mark to be made on a sliding scale moving according to the velocity. The weight would naturally cause an accelerating motion until the body had attained the

velocity where the resistance of the water would be equal to the weight, after which the velocity would be uniform. An additional weight, applied at the commencement, helped to shorten the time of acceleration, dropping off when the uniform velocity was attained.

The bodies varied in length from 4 to 44 feet, and in breadth and depth from 1 to 7.336 feet. The motive weights varied from 2 to 80 pounds, and the accelerating weight, added to get up more quickly to the uniform speed, weighed sometimes over 8000 pounds. A velocity of about 13 feet per second, corresponding to 8 knots per hour, was thus reached, and in some instances as high as 20 feet per second. Several runs were made with the same weight and the mean taken, but so perfect was the arrangement that the difference between the several runs was generally but trifling. From the results obtained, the resistance was calculated for every foot velocity up to 13.257 feet per second being exactly 8 knots per hour.

The following example will show the method suggested by Dr. Hutton and used in performing the calculations: The body was 28.309 feet long, the middle part being a parallelopipedon and the ends vertical wedges with the angle of obliquity $=9° 35' 40''$. The motive weights were, 4 pounds 3 ounces, 8 pounds 6 ounces, 16 pounds 12 ounces, 33 pounds 8 ounces, and 67 pounds. The velocities obtained, after the correction for friction of the blocks, thickness of the lines, &c., were, respectively 2.8875, 4.0250, 5.5083, 7.0500, and 9.4000 feet per second; or,

	Motive weights.				
Velocity in feet per second	4 lbs., 3 oz. 2. 8875	8–6 4. 0250	16–12 5. 5083	33–8 7. 0500	67–0 9. 4000

The values in the first two columns are then compared with each other in order to find the law of resistance for these two sets. The values in the first and third, first and fourth, and first and fifth columns are similarly treated; and then the second and third, second and fourth, second and fifth, third and fourth, and so on until the last two columns. Examining now the first and second columns, it is seen that the motive weights are not analogous to the speed, or

$$\frac{8 \text{ pounds } 6 \text{ ounces}}{4 \text{ pounds } 3 \text{ ounces}} = \frac{2}{1} \text{ is not equal to } \frac{4.0250}{2.8875}.$$

But the last quantity may be raised to a certain power, which shall make it equal to 2. Calling the exponent of that power m, we have:

$$2 = \left(\frac{4.0250}{2.8875}\right)^m,$$

and

$$\text{Log. } 2 = m \times \text{Log.} \left(\frac{4.0250}{2.8875}\right);$$

whence:

$$m = \frac{\text{Log. } 2}{\text{Log.} \left(\frac{4.0250}{2.8875}\right)}.$$

$$\text{Log. } 4.0250 = 0.6047659$$
$$\text{Log. } 2.8875 = 0.4605218$$
$$\text{Log.} \left(\frac{4.0250}{2.8875}\right) = 0.1442441; \text{ Log. } 2 = 0.3010300;$$

$$m = \frac{0.3010300}{0.1442441} = 2.0870.$$

In this way all the sets are treated, and the exponents will then be found as follows:

First and second set as above	2.0870
First and third set	2.1464
First and fourth set	2.3295
First and fifth set	2.3489
Second and third set	2.2093
Second and fourth set	2.4733
Second and fifth set	2.4516
Third and fourth set	2.8089
Third and fifth set	2.5939
Fourth and fifth set	2.4094

The mean of all these exponents is 2.3858, and this index of power will nearest express the law of resistance. By inspecting the columns it will be seen that the exponent obtained from the data in the fourth and fifth columns comes nearest to it, and, using the values in one of these columns, the different speeds corresponding to the motive weights in the other columns are calculated according to the ratio as expressed by the exponent 2.3885.

The corrected velocities for every motive weight used in the experiment thus calculated is called the "Huttonian Correction, or Regular Series." The resistance is then calculated for every velocity from 1 to 12.527 feet per second, the last being equal to 8 knots per hour.

The friction of the water was determined by ascertaining the resistance of two bodies having exactly similar ends and middle body, differing only in length, as in that case any difference in resistance must be due to the friction alone. And that difference, divided by the excess of surface in square feet of the longer body, gave the friction per square foot for that particular speed. The bodies were planed smooth and painted. Such experiments to determine the friction were made with bodies of different shape at the surface of the water, and submerged to a depth of six feet. The mean result, accepted by Colonel Beaufoy as the friction for that kind of surface, was as follows:

Velocity in feet per second.	Friction per square foot.	Index of power.
1	0.0037	.....
2	0.0143	1.9802
3	0.0313	1.9575
4	0.0546	1.9394
5	0.0843	1.9241
6	0.1199	1.9088
7	0.1615	1.8942
8	0.2091	1.8822
9	0.2624	1.8697
10	0.3215	1.8563
11	0.3863	1.8412
12	0.4568	1.8391
12.527	0.5754	1.8167

It will be seen that the index of power decreases; and it should be observed that the law of friction resistance as deduced by Colonel Beaufoy closely agrees with the later investigations of Mr. Froude.

After deducting the friction from the total resistance of the body experimented with, there remained the actual resistance due to both ends. This resistance Colonel Beaufoy divided into "plus" and "minus" pressure; the former being the resistance due to the head and the latter to the stern end. The difference between these two kinds of resistance

was determined in the following manner: Two bodies were tried, having exactly similar heads and middle bodies, but different stern ends. The middle body consisted of a parallelopipedon and the head end of a vertical wedge, the angle of obliquity of which was 9° 35′ 40″. The stern end of one body was exactly like the head end, but in the other body the wedge was longer, the angle of obliquity being only 6° 22′ 45″:

FIRST BODY.

	Pounds.
Resistance at the speed of 13.527 feet per second, or 8 knots	41.10
From which deduct friction	5.70
Plus and minus pressure	35.40

SECOND BODY.

	Pounds.
Resistance at 13.527 feet per second, or 8 knots	40.63
From which deduct friction	6.58
Remains plus and minus pressure	34.05

The difference between the plus and minus pressure of the two bodies was thus =1.35 pounds, but as the pressure against the head ends must be equal for both bodies, and as the friction is wholly taken away this difference must be due to the minus pressure only; and as this difference was very small compared with the great difference in length of the stern ends, it was inferred that the longer and sharper stern end, having an angle of obliquity of 6° 22′ 45″, had no minus pressure, or, if any, that it was so small as to be of no moment.

Similar experiments were made with pairs of other bodies, having, as before mentioned, the middle bodies and head ends alike, but the stern ends similar to those in the previous example. Thus another set gave:

	Pounds.
Resistance of the first body	46.72
Deduct friction	4.45
Plus and minus pressure	42.27
Resistance of the second body	46.54
Deduct friction	5.33
Plus and minus pressure	41.21
Difference of the plus and minus pressure	1.06

Another set:

Resistance of the first body	154.81
Deduct friction	4.00
Plus and minus pressure	150.81
Resistance of the second body	154.54
Deduct friction	4.87
Plus and minus pressure	149.67
Difference of the plus and minus pressure	1.14

The difference of the "minus pressure" being thus 1.35, 1.06, and 1.14 pounds, or very nearly equal, shows the accuracy of the different experiments.

The experiments just mentioned were all made with the bodies submerged 6 feet below the surface; and from the results obtained Colonel Beaufoy deduced the law of resistance, as follows:

Feet per second.	Index of power.	
	Plus pressure.*	Minus pressure.
2	1.9967	2.0297
3	1.9822	2.0553
4	1.9688	2.0781
5	1.9572	2.0906
6	1.9486	2.1812
7	1.9392	2.1148
8	1.9308	2.0553
9	1.9236	2.1336
0	1.9165	2.0076
1	1.9092	2.2654
2	1.9015	1.9839
12.527	1.8941	2.1432

* Mean decrease of index of power=0.0095.

When the wedges in the stern ends were less sharp the minus pressure, as might be expected, rapidly increased. Thus a body with head and middle body similar to that in the first experiment here mentioned, but having a shorter stern wedge, the angle of obliquity being=19° 28′ 16″, gave the following result:

	Pounds.
Whole resistance	49.61
Deduct friction	4.83
Plus and minus pressure	44.78
Plus pressure as before obtained	34.34
Remains minus pressure	10.44

Another similar body having a still shorter stern wedge, the angle of obliquity being 30° 0′ 0″, gave:

	Pounds.
Whole resistance	70.72
Deduct friction	4.50
Plus and minus pressure	66.22
Plus pressure as before	34.34
Minus pressure	31.88

It is evident that the "minus pressure" is the same as the eddy resistance caused by the want of a "clean run." The experiments show that there was little or no minus pressure when the angle of obliquity of the stern wedge was 6° 22′ 45″, while when the angle of obliquity was 9° 35′ 40″ there was a small minus pressure of 1.6 pounds. The minus pressure, or stern resistance, was consequently, in that case, equal to 2.4 per cent of the whole resistance (less friction); but when the angle of obliquity of the stern wedge was 19° 28′ 16″, the minus pressure was 10.44 pounds or 23.3 per cent. of the whole resistance; and when the angle of obliquity at the stern was 30° the minus pressure, or eddy resistance of the stern, increased to 31.88 pounds or 48.1 per cent. of the whole resistance.

These experiments show the importance of having a "clean run" when speed is an object.

As before mentioned, the experiments in the years 1793, 1794, and

1795 were made with bodies at the surface of the water. Those made during the years 1796, 1797, and 1798 were all with the bodies submerged 6 feet below the surface. A few examples will now be given in order to compare the results obtained from the experiments at the surface with those of the same bodies submerged to a depth of 6 feet.

No. 1.—*At the surface.*

(Beaufoy, p. 81.)

The body was a parallelopipedon of 21.099 feet in length and 1.219 feet in width and in depth, the section being = 1.4859 square feet. The body was even with the water, the immersed surface being 77.16 square feet:

	Pounds.
Whole resistance at 13.527 feet per second (equal to 8 knots)	332.47
Friction on 77.16 square feet (@ 0.5754 pounds per foot)	44.39
Plus and minus pressure	288.08

The same body submerged.

(Beaufoy, p. 187.)

	Pounds.
Whole resistance at 13.527 feet per second	312.53
Friction on 102.88 square feet	59.29
Plus and minus pressure	253.24

The body when submerged had, consequently, 34.84 pounds less resistance than at the surface. If friction is assumed for the whole surface of the first body, which may be fair, as the water would flow over part of the upper surface during the progress, the difference would still be 19.94 pounds less resistance for the submerged body. The difference in the former case amounts to 10.4 and in the latter case to 6 per cent. of the whole resistance (332.47 pounds).

No. 2.—*At the surface.* (*Speed*, 8 *knots.*)

(Beaufoy, p. 129.)

The middle part of the body was a parallelopipedon, having a vertical wedge at the stern end, with the angle of obliquity = 9° 35′ 40″:

	Pounds.
Whole resistance	308.61
Friction on bottom and two sides=81.55 square feet	46.92
Plus and minus pressure	261.69

The same body submerged. (*Speed*, 8 *knots.*)

(Beaufoy, p. 192.)

	Pounds.
Whole resistance	278.81
Friction on 107.27 square feet	61.72
Plus and minus pressure	207.09

Difference, less resistance, for the submerged body, 54.60 pounds, being 17.7 per cent. of the whole resistance.

Assuming the friction for the body at the surface on the upper side also, or equal to that of the submerged body, the difference or less resistance for the submerged body is 29.80 pounds, which is 9.7 per cent. of the whole resistance, (308.61 pounds).

No. 3.—*At the surface.* (*Speed*, 8 *knots.*)

(Beaufoy, p. 139.)

The middle part of the body consisted of a parallelopipedon (same as in Example No. 1), having vertical wedges at the ends, both exactly alike, the angle of obliquity being 9° 35′ 40″:

	Pounds.
Whole resistance	129.20
Friction on 99.38 square feet	57.18
Plus and minus pressure	72.02

The same body submerged. (*Speed*, 8 *knots.*)

(Beaufoy, p. 209.)

	Pounds.
Whole resistance	121.00
Friction on 129.49 square feet	74.51
Plus and minus pressure	46.49

Difference, less resistance for the submerged body, 25.53 pounds, being 18.1 per cent. of the whole resistance.

Assuming the friction on the top side also of the body at the surface, the difference is still 8.20 pounds less resistance for the submerged body, or 9.3 per cent. of the whole resistance.

These examples might be multiplied, and they prove conclusively the truth of the important fact that the resistance to a body or vessel is considerably greater at the surface of the water than below it.

This circumstance did not escape Colonel Beaufoy and his assistants; but it would seem that they did not appreciate its very great importance.

In the preface to Colonel Beaufoy's works, Chapter IV, the subject is touched upon in these words:

"By comparing the resistance of the bodies near the surface with those having similar head and stern ends, immersed to the mean depth of six feet, it is observed that, in all cases (friction excepted), those at the surface experienced more retardation in dividing the fluid than the others immersed lower down. This will appear by the following examples." * * *

But an examination of the experiments does also bring to light another highly important circumstance, namely:

The resistance at the surface of the water increases in a higher ratio than as the square of the velocity, while the ratio for the submerged bodies is less than as the square of the velocity.

And again:

The ratio of the resistance at the surface increases, while below the surface it decreases.

Experiments with bodies having horizontal wedges at the ends, instead of vertical ones, thus *dividing the* water horizontally, showed less

resistance for those with the horizontal wedges, the angle of incident being in both cases the same. Regarding this fact, Colonel Beaufoy says:

"A very singular circumstance appears by comparing the experiments made (see pages 139 and 155). The water in both cases impinges on the same angle of incidence and the circumstances vary only in one particular. In the latter case, the displaced water is forced under the bottom of the figure; but it is very remarkable that the latter body should have so much less resistance than the former; nor is it less curious that as an after body, or stern end, it has a decided advantage over the other. And by inspecting the different experiments a constructor of vessels must be convinced of the vast advantage the oblique stern has over the upright one; and if to this superiority be joined the great benefit that accrues in a head sea when turning to windward, it seems hardly possible that ships should not be built on this plan in future."

The following experiments will illustrate this:

No. 4.—*At the surface.* (*Speed*, 8 *knots.*)

The middle part of the body was similar to that of the body in example No. 3 (p. 139), but the head and stern ends consisted of horizontal wedges instead of vertical ones, as in example No. 3. The angle of incidence was the same in both cases, or 9° 35′ 40″:

	Pounds.
Whole resistance	109.23
Friction on sides and bottom, 112.56 square feet	64.57
Plus and minus pressure	44.66

Referring to example No. 3, it will be seen that the plus and minus pressure for the body at the surface was 72.02 pounds.

The difference between 72.02 and 44.66 pounds shows less resistance for the body with the horizontal end wedges, = 27.36 pounds, which is not less than 21.1 per cent. of the whole resistance. And even including the friction, although the body with the horizontal end wedges has the largest immersed surface by 13.18 square feet, its resistance is yet 19.97 pounds less than that of the body with the vertical wedges.

No. 5.—*The body submerged* 6 *feet below the surface.* (*Speed*, 8 *knots.*)

(Beaufoy, p. 345.)

The middle part of the body was a parallelopipedon, 10 feet long, section one square foot, with a vertical wedge at the fore end; angle of obliquity, 9° 35′ 40″, and a horizontal wedge at the stern end; angle of obliquity, 19° 28′ 16″:

	Pounds.
Whole resistance	80.25
Friction on 57.614 square feet	33.15
Plus and minus pressure	47.30

(Beaufoy, p. 349.)

The body was exactly like the foregoing, except that the wedge astern was vertical with the angle of obliquity as before, 19° 28′ 16″:

	Pounds.
Whole resistance	85.65
Friction on 53.372 square feet	30.71
Plus and minus pressure	54.94

Showing a difference of resistance = 7.64 pounds in favor of the horizontal stern wedge, being equal to 9.5 per cent. of the whole resistance. Including the friction, the resistance to the body with the horizontal stern wedge, although its surface is the largest by 4.24 square feet, is yet 5.40 pounds less than to the body with the vertical stern wedge.

O

48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 37.

COMPULSORY PILOTAGE.

NOTES OF A HEARING

BEFORE THE

SELECT COMMITTEE ON AMERICAN SHIP-BUILDING AND SHIP-OWNING INTERESTS,

ON THE BILL (H. R. 3067) RELATING TO PILOTS AND PILOTAGE

FEBRUARY 13, 1884, AND SUBSEQUENT DAYS.

FEBRUARY 26, 1884.—Ordered to be printed.

The following is the text of the bill:

That the inspectors mentioned in section forty-four hundred and forty-two of the Revised Statutes may grant licenses to pilots for sailing vessels in any port or harbor of the United States upon the same terms and conditions, so far as applicable, and with the same rights and powers, given to any pilots of any steam vessel under the laws of the United States in such ports or harbors; and no sailing vessel piloted into or out of any port of the United States by any such duly licensed pilot, shall be holden or obliged to take any other pilot in any such port, or be compelled to pay any charges or fees to any pilot for pilotage services offered and declined, under the pilotage laws or regulations of any State.

WASHINGTON, D. C., *February* 13, 1884.

ARGUMENT OF MR. JAMES B. RICHARDSON, IN FAVOR OF THE BILL.

Mr. JAMES B. RICHARDSON, of Boston, appeared in behalf of the New England Ship-Owners' Association, and made an argument in favor of the bill. He expressed his regret that he was called upon to present an argument in the case, and that other men better qualified than himself were prevented by illness from being present. He said that the subject was one of great importance. The association which he represented, comprising the practical ship-owners of the country, believed that unless relief from onerous and useless burdens now imposed upon shipping by some of the States was obtained, the few remaining sailing vessels now engaged in the foreign carrying trade would soon disappear from the ocean. Admitting that compulsory pilotage had once been wise or necessary, he argued that the conditions had so greatly changed that it was no longer necessary, and was a grievous and useless burden. He proceeded at some length, to state what the burden was—that it often amounted in small sailing vessels to a large percentage of the gross

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WASHINGTON, D. C., *February* 13, 1884.

GUMENT OF MR. JAMES B. RICHARDSON, IN FAVOR OF THE BILL.

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'GRESS, } HOUSE OF REPRESENTATIVES. { MIS. DOC.
sion. } { No. 37.

COMPULSORY PILOTAGE.

NOTES OF A HEARING

BEFORE THE

COMMITTEE ON AMERICAN SHIP-BUILDING AND SHIP-OWNING INTERESTS,

ON THE BILL (H. R. 3057) RELATING TO PILOTS AND PILOTAGE

FEBRUARY 13, 1884, *AND SUBSEQUENT DAYS.*

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IES B. RICHARDSON, of Boston, appeared in behalf of the and Ship-Owners' Association, and made an argument in favor . He expressed his regret that he was called upon to present ent in the case, and that other men better qualified than him- prevented by illness from being present. He said that the as one of great importance. The association which he repre- ımpıising the practical ship-owners of the country, believed ıs relief from onerous and useless burdens now imposed upon ɔy some of the States was obtained, the few remaining sailing ɔw engaged in the foreign carrying trade would soon disappear ɔcean. Admitting that compulsory pilotage had once been ɛcessary, he argued that the conditions had so greatly changed ıs no longer necessary, and was a grievous and useless burden. eded at some length, to state what the burden was—that it unted in small sailing vessels to a large percentage of the gross

earnings of the vessels. He showed that the regulation of pilotage was a matter properly within the jurisdiction of Congress, and that it had only been left to the States by the sufferance of Congress. He cited the leading case of Cooley *vs.* The Board of Port Wardens of the port of Philadelphia, reported in XII Howard, in which Mr. Justice Curtis gave the opinion that the question of pilotage was within the peculiar province of the legislation of Congress, and that the States had only been allowed to pass laws and regulations on the subject by sufferance. He said that this was a leading and very instructive case bearing on the point. The opinion rendered by Mr. Justice Curtis was only a majority opinion, as Justices Swayne and MacVeagh had given a dissenting opinion. The question had been raised very many times since; but the decision in that case had, of course, settled the question that, until Congress acts upon it, the States have undoubtedly the constitutional right to pass regulations on the subject; but that that right existed only so long as Congress did not see fit to legislate upon it. The moment Congress did see fit to legislate upon it, that right in the States ceased. He called the attention of the committee to sections 4438 and 4444 of the Revised Statutes to show that Congress had from time to time taken up the subject and passed acts in reference to it. Those two sections were not only proof of what he said in regard to that, but might be material, he thought, in the discussion of the question hereafter, in view of the special provisions of the pending bill. Section 4438 was as follows:

The boards of local inspectors shall license and classify the masters, chief mates, engineers, and pilots of all steam-vessels. It shall be unlawful to employ any person, or for any person to serve as a master, chief mate, engineer, or pilot on any steamer, who is not licensed by the inspectors; and any one violating this section shall be liable to a penalty of one hundred dollars for each offense.

Mr. HUNT. That has reference to the coastwise trade, has it not?

Mr. RICHARDSON. Yes. Section 4444 is as follows:

No State or municipal government shall impose upon pilots of steam-vessels any obligation to procure a State or other license in addition to that issued by the United States, or any other regulation which will impede such pilots in the performance of the duties required by this Title; nor shall any pilot-charges be levied by any such authority on any steamer piloted as provided by this Title; and in no case shall the fees charged for the pilotage of any steam-vessel exceed the customary or legally established rates in the State where the same is performed. Nothing in this Title shall be construed to annul or affect any regulation established by the laws of any State, requiring vessels entering or leaving a port in any such State, other than coastwise steam-vessels to take a pilot duly licensed or authorized by the laws of such State, or of a State situate on the waters of such State.

Mr. RICHARDSON argued that that was proof of what he had stated that Congress had taken away the power from the States, and he said that no person questioned the right or authority of Congress to regulate the pilotage question in regard to steam vessels.

Mr. HUNT. Engaged in the coastwise trade?

Mr. RICHARDSON. Yes; engaged in the coastwise trade. It will be seen at once from this that, so far as coastwise steam vessels are concerned, of whatever size or value or tonnage, Congress has already regulated the qualifications of pilots, the manner in which they shall be examined, and the way in which they shall be appointed. Congress has provided for pilots for steam vessels in the coastwise trade, and has expressly forbidden the State authorities to interfere with those pilots, or to impose any additional fees on those vessels. The committee will, therefore, see that Congress has removed steam vessels from compulsory pilotage, but has left sailing vessels exposed to it. So that to-day the

arge steamers that run from Boston to Savannah, from Boston to ork, to Philadelphia, and to Baltimore, and other ports, the great s of the Bristol Line that carry thousands of passengers, and t of immense value, can run up and down the coast by having on a pilot who is licensed (the fee being $10 a year). These great s, freighted with passengers, and with property of great value, that, and are free from compulsory pilotage, while my friend mery here, if he wishes to sail a small sailing vessel from Boston to John, has to pay an amount of pilotage equal to one-tenth of the rnings of the voyage. So that we say right here, notwithstand- e talk about the necessity of encouraging the merchant marine of untry, and notwithstanding the necessity which everybody admits, ouraging the business of sailing vessels as a nucleus for the Navy e of war and need, Congress has made a discrimination against very sailing vessels.

HUNT. I ask you whether, as a matter of fact, that provision of not a dead letter in all the harbors where special skill is required way of pilotage?

RICHARDSON. It is certainly not a dead letter in Boston or Prov- . These large steamers, monarchs of the sea, do not employ a n entering the port of Boston, Providence, or New York.

HUNT. In the case of Joliffe, a later case than that which you cited, did not the Supreme Court of the United States, through ustice Field, vindicate as a matter of public policy, the historical ment of this topic by the Congress of the United States, in leaving lotage laws to the regulations of the local legislature. Has not urt explained and defended that as an American historical prac- nd correct doctrine?

RICHARDSON. I should say that if the court did such a thing, it beyond its province in expounding the policy of the law, the court for the purpose of telling what the law is, and not for the purpose canting on the policy or the impolicy of the law. I have read ase several times.

HUNT. You probably know it better than I do.

RICHARDSON. No, I do not; but I have read it several times. I come here without the least preparation to make an argument. I a good many points in my mind, but I have not put them in any and I shall be very glad to have questions asked me on the sub- I repeat that as to the large vessels the law is not a dead letter, at they do not employ local pilots. In regard to them it is con- d wise and politic by Congress to intrust them with the selection ir own pilots. It would be strange indeed if my friend, Mr. Em- nd other owners of small vessels, when they want to send to the Indies for a cargo of salt, or to Hayti for a cargo of logwood, l be obliged to take a pilot in and out of Boston, while pilots ap- d and qualified under the law of Congress are deemed capable of in and out this large class of steamers that I have spoken of. I never heard it suggested anywhere that it would be wise to repeal w or to modify it. I do not know that it has been abused. I yet to learn that the men who have been licensed as pilots, and ct as pilots on these large vessels, are not as good and skillful, o not perform their duties as well as the pilots appointed under gulations of the different States.

re is a peculiarity which has resulted from the different States g these pilot acts. Mr. Emery, for instance, may take a vessel Boston to Galveston or to New Orleans without a pilot.

Mr. HUNT. I doubt whether she would get insurance if she went up the mouth of the Mississippi or into the port of Galveston without a regular pilot.

Mr. RICHARDSON. In the marine insurance companies of Massachusetts (and I am counsel for one or two such companies) I have never heard the question asked as to whether a vessel is going to a port where there is a system of State pilotage or not. I believe that question is never asked. I have yet to learn of a case where a life-insurance company has made any difference in risk or premium upon the question whether a vessel was going to Saint John, or to Bangor or Portland, in which last two ports there is no compulsory pilotage, and never has been. I am perfectly aware that by English decisions, insurance companies have evaded payment of liability by reason of the master of a vessel not taking a pilot where a pilot is required by the English laws. But that is upon the same principle as where a man in going up or down the street gets into a collision. If he is on the wrong side of the street the decision is against him. So if you will examine these cases, you will find that those decisions are not put upon the ground that the risk was any greater, but rather on the familiar principle that a man cannot avail himself of the law where he was himself violating the law.

This vessel which Mr. Emery may send to Galveston or New Orleans may go out of the port of Boston without taking a pilot; but if he sends the same vessel, with the same crew, and with the same cargo, to Hayti, to Nassau, to Havana, he has got to pay a large pilot fee of $30 or $40, just in order to get out of port, even though the vessel should be in ballast. What is the reason for that? The risk is the same, the water is the same. If there is any increase of risk, it is rather against some of our own ports. If she comes back from Galveston to Boston with a cargo of sugar or molasses (a valuable cargo), she is entirely exempt from the payment of pilotage fees, under the laws of Massachusetts. But, if she comes from the West Indies with a cargo of salt, or from Hayti with a much cheaper cargo, it will cost him $50 or $60 to get her into port. I should like to know if that is not a discrimination against American citizens, trying to carry their flag into foreign ports.

Right on this point I propose to refer to what this burden is, in order to show you the evil that we are trying to remedy. The fees upon a vessel of 15 feet draught of water bound to the port of Boston are $52.50. The fees upon the same vessel bound out of port are $31.50, making the whole amount for the trip in and out, $84, exclusive of distance-money, which may be $10.50 more (there is a provision that if a pilot goes out to sea one or two hundred miles, and meets a vessel outside, he can claim distance-money. The validity of that claim is questioned, but it has not been authoritatively settled). The tax upon such a vessel, making ten trips per year (which vessels running to the British Provinces may make), is $840. And this for a little vessel drawing only 15 feet of water—a little vessel by which an American citizen is trying to carry the American flag 50 miles beyond the borders of the United States. Is that an encouragement to American shipping?

Mr. LORE. Does not the same law apply to foreign vessels?

Mr. RICHARDSON. No, sir. Mr. Edwin Adams, the agent of the White Star Line in Boston, testified before a committee of the Massachusetts legislature that he was obliged to pay $63 inward pilotage fees on a bark owned by him, from Hayti to Boston, although the whole freight on the bark was only worth $850, and although the bark was brought in by a steam-tug, for which steam-tug service he paid $50, the pilot being of no use whatever. He did not take the pilot, but he was obliged to pay

this compulsory pilotage, although his vessel was brought in by a steam-tug.

Mr. O'NEILL inquired whether the steamship Columbus, that was wrecked a few weeks since, had a pilot on board when she was wrecked.

Mr. RICHARDSON replied that she had no licensed pilot, he believed, but that she was not on pilotage ground, at any rate. He stated that in a report made to the legislature of Massachusetts by the late Mr. Nathaniel C. Nash, a well-known authority on this subject, Mr. Nash used this language:

It was shown conclusively by the evidence before your committee, that the fees for half pilotage [very small vessels are allowed to go in for half pilotage fees] paid by small provincial vessels averaged $13 a trip; and in four to six years, sufficient to absorb the whole vessel, and the net earnings of the vessels, and were often a percentage of 5 to 10 per cent on the cheap cargoes carried [not the earnings, but the cargoes themselves].

Mr. RICHARDSON [continuing]. As you well know, gentlemen, the cargoes that come from the British Provinces to Boston, to Providence, to New York, Philadelphia, and Baltimore, are cheap cargoes, consisting generally of potatoes, oats, wood, and plaster. The vessels carry back our manufactured goods. They bring in these things that we need, these necessaries of life, and they carry back our cotton goods. Perhaps the things of the most value which they carry back are flour from the West, cotton goods, boots and shoes, and household furniture manufactured in the New England States. And yet these little vessels engaged in this trade pay, in the course of five years (according to Mr. Nash), enough to eat up their whole value. Is that encouraging commerce with our neighbors? And yet these men never employ a pilot. They will not employ him. Even if they have to pay for pilotage, they will not take a pilot on board. I have heard gentlemen say that they will not surrender valuable vessels into the hands of some of the pilots appointed under the regulations of the States; that if they have to pay for a pilot, they will pay for him, but they will not have him. The president of the Boston Marine Insurance Company told me himself that the company had come to the conclusion that this tax imposed upon their vessels was in itself, and in the methods of its collection, so onerous and odious that the masters of these little vessels meet with more accidents by trying to run into port at night, and in fogs, in order to avoid what they considered this most unjust and onerous provision, than they do in any other way; and that practically, instead of its being an aid, it was an injury to commerce in that respect. Mr. Nash also said:

It was also in proof that most of the money drawn from vessels engaged in commerce with the provinces was collected for services tendered and declined.

What we want is that when we take a steam-tug, which is in command of a duly licensed pilot under the laws of the United States, in Boston Harbor (I am going to speak of that particularly)—when we take the aid of a steam-tug in or out, which steam-tug is then in command of a duly licensed pilot, we shall not be obliged to pay a larger fee (and the fees of pilotage are larger than those of towage the country over) to a pilot appointed under the regulation of the State.

Mr. LONG. And whom you do not use.

Mr. RICHARDSON. And whom you do not use. Of what earthly use can a pilot be where a vessel is being taken in by a steam-tug, which brings her right into port? We have a precedent in asking for this abolition of compulsory pilotage. The English Parliament has anticipated this measure. Since 1871 the English Parliament has licensed mastersof vessels. These masters pay from £1 to £5 a year for a license, and

a licensed master can carry his vessel into and out of the ports of Great Britain. These masters are examined by the Trinity House inspectors, and get a license, and then do not have to take a pilot.

The method of doing business by sea has been greatly changed of late. Vessels that go even upon foreign voyages run with great regularity. Fifty years ago a vessel would go on a foreign voyage and come back at the end of six months, or eight months, or a year. Now that is all changed. The aid that sailing vessels want now in coming into port is the aid of steam-tugs. Time is the great object. What we want to save is time. I suppose that if by some new invention by the use of electricity, or by some combustion of gun-cotton, or some other means, a vessel could be driven from New York to Liverpool in two days, steam would be superseded, just as it has superseded the sailing vessels. In order to get in and out of port, these sailing vessels are compelled, by the absolute necessity of saving time, to employ a steam-tug, and they should not be compelled, in addition to employing tug-boats, to pay pilotage fees. If they are compelled to pay these exactions, they will be driven entirely from the ocean. They cannot exist. They are almost gone now. It is a most humiliating thing for an American to travel in a foreign country and to see the vast amount of shipping in some places no larger than Boston, such as Amsterdam, Rotterdam, The Hague, Antwerp, and not see the stars and stripes anywhere.

The second clause in the pending bill is a very important one. It relates to vessels when they take a steam-tug that is in command of a duly licensed pilot. When they want any aid to get into port, it is that aid which they will want. Of what use is a pilot when the vessel cannot get into port by reason of head winds? A pilot in that case cannot do any good. Just see what changes have taken place since this compulsory pilotage law was first established. One hundred years ago there may have been a bonfire in the night on one or two promontories, in order to show the location of a port. Since then what vast sums of money have been expended in the building of harbors, in the deepening of shallow places, in the removing of rocks, and in the establishment of lights, beacons, and buoys. All these changes have taken place, and it does seem to me that adhering to this compulsory pilotage system is like clinging to the tallow candle, instead of using gas or electricity; or like riding between New York and Washington on stage-coaches when we can go by railroad trains. The conditions, I say, are changed. Assuming that these compulsory pilotage laws were once wise, they certainly are no longer so. To continue these burdens after they have become useless, is to hamper and destroy unnecessarily the little shipping interests that we have left in sailing vessels.

ARGUMENT OF MR. BECKWITH.

Mr. BECKWITH, of New Orleans, said that the legal aspect of the question was too broad a one to be considered in half an hour. The historical action of Congress on the subject of pilotage had been one, he said, of caution—caution bred of the difficulties surrounding the subject, of the difficulties in the way of constitutional inhibition, of the practical difficulties in the way of legislation which had rendered the subject a terror from the First Congress to the present one. It would take him half an hour to state the legal history of the subject; but he thought that of so much importance that he considered it better to give his whole attention to it. He took it that the object of this bill was not iconoclastic. It was not intended to destroy. It was not pos-

sible that any body of men would have the hardihood to strike out of existence some system of pilotage, which was indispensably necessary to the complete equipment of every vessel, and indispensably necessary for the protection of property and life on board of vessels. He held, therefore, that some system of pilotage must be preserved. It would not do to destroy a system two centuries old, without substituting anything in its place. The trouble and difficulty on this pilotage question was felt by the First Congress, that assembled in the city of New York. That Congress felt itself unwilling and incompetent to meet it by any general bill. The first article of the Constitution guaranteed the power to Congress, but also placed limitations on that power, both being equally important to the protection of the form of the Government and to liberty. Among the grants of power given to Congress was the power to regulate commerce with foreign nations, and between States, and with the Indian tribes. He did not disagree with Mr. Richardson as to the provision conferring the power on Congress to legislate on the subject of commerce. If there had been any doubt about it, that doubt was settled by the case of Cooley *vs.* The Board of Port Wardens of Philadelphia. It had been adhered to by the Supreme Court, and it was now beyond question, except by an amendment to the Constitution. But the same article of the Constitution that conferred that power put a wise restriction upon it, and that was where the difficulty lay. That was that Congress should pass no regulation of commerce or of revenue that would give advantage to the ports of one State over the ports of another State. Therefore, any regulation of pilotage must be uniform as to all the States, and all ports in all States. This was a guarantee to the States themselves that by no system of revenue, or by no system of port dues, or by pilotage, or in any other way could it be said that it was cheaper to enter the ports of one State than to enter the ports of another State. The men who met in the First Congress, in New York, had left behind them a record of immense wisdom. They had brought financial order out of chaos and bankruptcy. They had established a judicial system which had not been modified in one hundred years. And yet they had been afraid to attack this question of pilotage, because the conditions of it were not uniform in any two ports. The port of New York was accessible to the heaviest line-of-battle ships, and the pilotage over the bar was not more than a mile and a half, so that what would be a fair regulation of pilotage in the port of New York would not be a fair regulation of pilotage in the Delaware Bay, or in the Chesapeake, or in the James River, or in Pamlico Sound. Therefore Congress established a system of pilotage which might have with it the collateral and incidental machinery to support itself—to breed and encourage not only a set of men who would make themselves familiar with the channels, but who would maintain the equipment necessary to carry on the business of pilotage. It was impossible for Congress to establish any system of pilotage fees that would be uniform as to all ports, because the fees that might be exorbitant in one port might not be sufficient to maintain a pilotage system in another port. Therefore the first Congress passed the only act that it could safely pass, the act of 1787. That act did not attempt to solve the difficulty, but left it to the States themselves to settle it. It was not true that there was a State law in existence that governed pilotage, because that act of Congress had provided, by a short and wise enactment, that until otherwise ordered by Congress (and Congress had not felt competent to order otherwise) the regulations of the local State pilotage, as then adopted, and such as might be adopted, should be the law governing pilotage in the bays, ports, and

inlets of the United States—thus putting the imprimatur of Federal leg islation on every act that might be adopted by the States afterwards o the subject of pilotage. So that it was not true that the acts governin pilotage to-day were State laws. They were Federal laws by adoption Congress had remained perfectly silent on the subject of pilotage unt 1825, when a difficulty sprung up on account of a conflict of jurisdictio between New York and New Jersey in regard to Delaware and Chesa peake Bays. Congress then passed an act that a vessel should be deeme to be in the possession of a proper pilot if it took him from either of th States bordering on these waters. This legislation had remained unt 1851 or 1852.

Mr. BECKWITH continued. Then, acting in imitation of the Englis system, (which Congress imitated too much), Congress undertook t control, so far as it could, one class of American vessels, to wit, vessel propelled in whole or in part by steam; and there, for the first time, i named the word "pilot." It provided for their inspection, for their qual fications, for their certificates, &c., and provided a penalty for any vess propelled in whole or in part by steam that should be navigated withou a pilot, if such vessel carried passengers. The penalty did not appl except to vessels carrying passengers. That was the condition of th law in 1861, when the State of California passed a law adopting com pulsory pilotage. The Pacific Mail Steamship Company had at tha time in the port of San Francisco the steamer Golden Gate, and a pilo Mr. Joliffe, offered his services to take her to sea, she being bound to foreign port. The offer was refused, and Joliffe sued before a justice' court in San Francisco, and recovered judgment for $54, as the com pulsory pilotage fee under the provisions of that State law. The ma ter was carried by the company to the Supreme Court of the Unite States on ground that Congress had acted on the subject of pilotag and that the act of 1852 had taken the power from the State, and tha therefore, the act of California, passed in 1861, was in contravention the action of Congress on the subject and was null and void. The cas came up and was continued for one term, in order to permit the Stat of California to be represented by its attorney-general. The matter wa afterwards argued, the State of California being represented in the cas

The Supreme Court, by a large majority, declared that the pilots, ur der the pilotage system of the law of 1852, were not pilots by virtue their certificates, or by virtue of their inspection, but that they becam pilots and were pilots only when they were attached to the ship as pa of her equipment; that they were pilots only upon the voyage, and not i port; and that the California pilotage laws were proper and just an within the power of the State; that they were adopted by the Feder Government the moment they were passed, and that no coastwise stea vessels nor steam vessels in the foreign trade were exempt from th provisions of the local pilotage law. That decision is to be found in 1 Wallace, p. 450, where there is a very elaborate and interesting discu sion.

Then the matter passed to Congress, and the act of 1852 was revise to bring it more in accord with the English shipping act. There wa a compromise in the act of 1872 between the views of the majority an the views of the minority of the Supreme Court, Congress seeming t have agreed that the Supreme Court was right in its construction of th law. Section 4444 of the Revised Statutes was enacted on account of thi Joliffe case. There only one class of vessels was exempt from the actio of port pilotage. That was American vessels propelled in whole or i part by steam, and engaged in the coastwise trade. They are exemp

from the necessity of taking a pilot, while the vessels engaged in the foreign trade are required to take a pilot. There had been that difference made. Congress has never undertaken, and never will undertake to deal with the subject in a spirit of destruction. It will not destroy one system without supplying another in its place. There is a Constitutional difficulty in the way of Congress, which makes this question of pilotage the gravest question that ever came before Congress. None of the other questions of grants of power are embarrassed by such a mass of difficulties growing out of geographical facts involving depths of channels, distances of ports from seas, and the proper remuneration to be paid to pilots. That is the reason why there has been so little legislation on the subject—that and the fact that no Congress has yet been found which thought it right to tear down an indispensable system without substituting a better one in its place. This bill has in it the elements of absolute destruction of the system of pilotage as it exists to-day. That system does not exist for New England alone, or for New England coastwise vessels alone. It exists in pursuance of the obligation which this country owes to the world as one of the family of nations to make its coasts accessible to the ships of all nations.

Mr. LONG. Do you agree with Mr. Richardson that the compulsory pilotage system has been abolished in England?

Mr. BECKWITH. I do not; I think he is mistaken in that. There are some classes of men who get licenses under a Trinity House inspection, and who may command vessels; but no vessels of any foreign build can go up the Thames without having two sets of pilots. She has to take one of the Trinity House pilots off the Thames, and she has to take a Thames pilot before she reaches Greenwich. At least that was the system in 1881, when I was there. In the London docks, a vessels cannot move from one part of the dock to another without having to pay the pilot a guinea. The English law relative to pilots rests in part in the act of Parliament and in part in the power of the Board of Trade and of the Trinity House Board; so that it is unsafe for any one to say precisely what the pilotage laws and regulations in England are. But I should very much doubt that there is a port in England, large or small, or that there is a dock in any English port in which a vessel can be moored without paying a rate of pilotage higher than the average rate in this country.

In regard to this system of pilotage there must be an equipment. That equipment is a vessel able to encounter the heaviest sort of weather. Nine-tenths of the foreign vessels that come to our ports are vessels which approach the coast without any better knowledge of it than they get from general charts. They approach it often in heavy weather, and frequently in fogs. A pilot must be so equipped that he will meet a vessel not at the edge of the channel, but at the first moment that the vessel is in need of the skillful direction of some person having a full knowledge not only of the currents of the coast, but of the soundings, of the drift of the currents, and of the variations of the winds. The effect of the system of compulsory pilotage is to create a set of men who will pursue pilotage as an avocation. In the port of New Orleans they must invest in a pilot vessels at least $10,000. The vessel must be a decked vessel of at least 50 tons burded, staunch and seaworthy. And the only way that that expense can be borne is by an association of pilots, who must necessarily divide the use of the vessel and divide the profits. It may be that in Boston and New York the men appointed by the Government for the inspection of the hulls and boilers of steam vessels are sailors, but, if *they are, these* ports must be congratulated.

Usually they are not supposed to have any knowledge of a sailing vessel, or of the skill which a pilot must possess. A pilot must have, in the first place, the necessary skill to board a vessel under most adverse circumstances. I have seen pilots board vessels when it was utterly impossible to lower a small boat, and when the pilot had to have a bowline attached to his waist, and had to jump overboard and be hauled on board the vessels that required his services, with all the risk of being crushed and mutilated against the side of the ship. The men who should pass upon the question of the competency of pilots must be men of skill and nerve, and not men who stay on shore as counsel of insurance companies, and who disparage the difficulties of the calling.

I hold in my hand a statement of the Treasury Department addressed to the collectors of customs for the month of December, 1883, containing a statement of the tonnage dues collected from all vessels for the fiscal year ending June 30, 1883. The amount of tonnage dues collected from all vessels during that fiscal year (at the average rate, I believe, of [illegible] cents a ton) was $1,320,590.80.

Mr. DINGLEY. There are no tonnage dues levied on coastwise vessels. Only vessels that are engaged in the foreign trade are subject to a tonnage tax. Therefore these figures do not include pilotage on coastwise vessels.

Mr. BECKWITH. The total amount collected from American tonnage was $262,629.

Mr. DINGLEY. That is on vessels engaged in the foreign trade only.

Mr. HUNT. I would like to know what skill is requisite to navigate a vessel through the mouth of the Mississippi River. What is your information on that subject? What are the facts?

Mr. BECKWITH. It requires extraordinary skill, and extraordinary nerve. The skill is, I think, more easily obtained for money than the nerve. The jetties, of which you hear so much, constitute so far as the sea entrance is concerned, two original parallel walls about a thousand feet apart. Then the current of the river was not sufficient to scour this breadth of river to the depth of 30 feet. Then a system of wing-dams was thrown out which has restricted the jetties to a minimum, I think, of 400 feet, and a devious and somewhat crooked channel has been obtained, over which a vessel drawing 26 feet of water may go, with skillful pilotage. Instead of there being a channel straight out of the pass as a continuation of the jetties, there has been ever since the jetties were established a large lump with only 14 feet of water, almost in the axis of the center of the channel. That causes two channels, one of them deflecting to the eastward for a while, and then taking the current outside the lump and going to the westward, and the other tending a little to the westward. All heavy vessels drawing 17 feet of water must come in by the East Pass. Coming in by the East Pass, just as they pass the end of the wing-dam, the tendency of the whole force of the current of the Mississippi River is to swing the vessel off, and, unless she answers her helm properly and comes up three points at the turn of the wheel, she is liable to turn across by the West Pass and get on a shoal. I have known a vessel in the tow of a powerful steamboat being caught there by that current on the starboard, and both herself and the tow-boat carried ashore.

Mr. FINDLAY. How often has that happened?

Mr. BECKWITH. It depends somewhat on the strength of the current. No more than five weeks ago a boat was caught there in that way.

Mr. LONG. Had she a pilot on board?

Mr. BECKWITH. Yes; she had a pilot on board.

Mr. HUNT. How is the law of 1872 carried into effect at the mouth of the Mississippi?

Mr. BECKWITH. The Morgan Company, I suppose, does the largest steam coasting trade; and next to that is the Cromwell Company. Not a vessel of these companies is permitted to go into port without a port pilot.

Mr. HUNT. Would it be safe for them to attempt to do so?

Mr. BECKWITH. It would not be. I have here a deposition from one of the masters that it is not safe. I differ from the counsel on the other side on the subject of the necessity of a port pilot under general insurance laws.

Mr. HUNT. How many years were you United States attorney in New Orleans?

Mr. BECKWITH. Nearly eight years.

Mr. HUNT. How many collision suits have you tried in that time in the maritime court of New Orleans?

Mr. BECKWITH. I do not know; I should say they amount to hundreds.

Mr. HUNT. You are thoroughly familiar with the navigation of the lower river?

Mr. BECKWITH. I think so.

Mr. HUNT. Is that act of Congress a dead letter there, or not?

Mr. BECKWITH. It is a dead letter in this, that no coastwise vessels come in there without a pilot, for two reasons: first, on account of the difficulties at the mouth of the channel, where the current is sometimes only one mile, and sometimes three miles. I understand the law to be settled all over the world (I do not know any exception), that in a voyage policy of insurance there is a condition that the vessel is seaworthy, and that that seaworthiness consists not alone in soundness of hull, completeness and soundness of spars and rigging, but in the complete equipment of the crew; and I understand that there is no question in regard to the law that a vessel is not equipped unless she has a pilot.

Mr. HUNT. Tell the committee as to the class of men who are pilots at the mouth of that great river, and what would be the effect upon them of the passage of this law.

Mr. LONG. Is not the necessity for pilots so great at the mouth of the Mississippi that they would still be employed either with or without a law? In other words, would not the natural law of supply and demand maintain pilots?

Mr. BECKWITH. The trouble is that you would get an inordinate supply of bad material, and that the good material would pass out of the business. The pilotage equipment in the port of New Orleans amounts to over $100,000. That equipment consists of stations where the men can live, and in powerful steam vessels. If compulsory pilotage be abolished, these men will leave the business, and inferior men will crowd into it, who will pilot when they choose, and stop when they choose. One day, perhaps, you would have 150 pilots on the bar, and another day you would have none. None of them would have a boat that would go out to sea. The passage of this bill, I think, would be death and destruction to every system of pilotage existing to-day in the United States. The whuld system would go, and what would you get in the place of it? You might get a set of men who would pass these inspectors, and who would get a license from the inspectors, who themselves would not have the slightest understanding of the difficulties. A man so licensed might go out to sea and pick up one vessel, perhaps;

and then he would get so thoroughly frightened that he would go into some other business. There has got to be a system maintained by which men who can be depended upon will be kept in the business. If you read the State laws on pilotage, and notice the amount of control held over pilots as to competency, sobriety, and other qualities, you will see that it has been necessary to encourage in all the States a very liberal system of laws so as to guarantee competent men who will serve as pilots. One great reason why the States should be left in charge of this matter is that a State has, as a State, an imperative interest in the safety of her ports, and to see to it that the channels to her ports are not obstructed. If two vessels were to be stranded in Grand Bayou in the South Pass of the Mississippi, the jetties would close in forty-eight hours, because the Mississippi River would refuse to pour its water through that pass. There are two other passes larger, and ready to take the water, so that two vessels stranded on the flats at Grand Bayou would end the Eads jetties in forty-eight hours. Every State is interested in the protection of her ports against such a calamity as that.

Now the matter rests to-day just as it did in 1787, when Congress did dare to deal with it. You cannot tear down a system and put an efficient system in its place, and do justice either to the ports of the country, or to the commerce of the world. I do not believe that you will undertake to meddle with pilotage until you are prepared to solve the extremely difficult question of how to supply its place with another system equally efficacious.

Mr. DINGLEY. What reason is there why the same system which applies to steam vessels in the coastwise trade does not also apply to sailing vessels in the coastwise trade?

Mr. BECKWITH. The trouble is inherent in the form of the existing statute. I know of no competent man appointed under that statute to inspect even for steam purposes.

Mr. DINGLEY. Then you assume that the law is a failure in reference to steam vessels?

Mr. BECKWITH. No; I assume that it is a very good law; but so long as the appointments under it are not given to men who can go through a competitive examination (instead of to men who can stuff ballot-boxes, or otherwise save the country by one of the various processes by which men get into distinction in politics, particularly in our State), its object is frustrated. These men cannot stand a competitive examination on nautical matters. Many of them who inspect boilers and hulls would fail in their catechism as to the technical terms both of machinery and hulls. A pilot should be able to take charge of a vessel of any build. Certainly it would be very injudicious to adopt a system by which men whose duty it is only to inspect engines and hulls would be required to inspect and license pilots who have to handle sailing vessels—vessels propelled by another power, requiring an entirely different class of education. Either another set of inspectors must be appointed, or you must demand improved qualifications on the part of your inspectors. Otherwise you will get a set of pilots who have only presumptive skill, and who fail on every occasion when called upon to use that nautical skill which is indispensable to the handling of vessels.

Now I come to the question of tow-boat vessels. It strikes me that nothing is more impracticable in the bill than that feature of it. It assumes that the ocean is always calm. It assumes that a tow-boat can go out in the offing, whereas she would be more likely to be crushed like an egg-shell, if she ventured out. One-twentieth of the time the sea is so rough that a line cannot be got from one vessel to another; or,

if a vessel is got in tow, the hawser will part. Nothing can be more impotent to direct a vessel than a tow-boat in such cases. And that applies only to sailing vessels. Unless you have a pilot on board who can handle that vessel by her own means of propulsion, a tow-boat would be only a curiosity, and would be of no assistance whatever. It is not right that men who take their lives in their hands, and who subject themselves to all the terrors and inconveniences attending such a life, particularly in the winter season, should be legislated against by Congress. It is only on the peril of their lives that sometimes they can board vessels. To destroy the pilotage system would be to give tow-boats the chance of enhancing their towage rates. I have known that to be done. Towage plus pilotage is the practice. A system that is now 200 years old in many of our ports ought not to be stricken down by inimical legislation, at least without care and caution, or until some system is devised which will give that measure of safety that we are required by the comity of nations to extend to the commerce of the world. The flag of our country is, they say, rarely seen in foreign ports. Deeper reasons than pilotage are to be sought for that. That is not, therefore, a matter of discussion here. But I think that if any material rebate in the amount of pilotage is to be exacted, it certainly ought not to be done until our ships can get as much rebate abroad as we give foreign ships here. How much of an encouragement to our foreign commerce is it for us to pay pilotage in the North Sea, or in one of the foreign ports? Yet the encouragement sought here to be given to our commerce by baiting it with the bait of Saint John stands on just as good a reason as the other. Our shipping will expand or will contract entirely independently of the question of pilotage. The demands for pilotage will continue. The skill required for the business, the equipment required, and the amount of emoluments which the pilots shall receive for the peril that they run, will continue under all conditions and changes, and the business certainly ought not to be disturbed without the most extreme and cautious consideration of what is to follow, and without some plan that will take its place.

Adjourned.

WASHINGTON, D. C., *February* 14, 1884.

The committee met at 9.30 a. m.

JOHN E. CHASE examined.

The WITNESS. I appear here as one of the delegates from the Maritime Association of New York, an association having a membership of about 2,000, and I think I am safe in stating that they directly and indirectly represent the entire shipping interests of the country. Being from New York, I shall speak mostly of the operation of the pilotage laws in that State.

From 1845 to 1853 pilotage in the State of New York was non-compulsory, and so satisfactory was the operation of the law that when in 1853 the pilots sought to have the law changed, so as to make pilotage compulsory, the merchants, ship owners, and the underwriters of New York, sent a protest to the legislature of that State, and with your permission I will read it:

To the senate and assembly of the State of New York:

The undersigned, underwriters, merchants, and ship-owners of the city of New York, beg leave to state that from the nature of their business they are deeply interested in

having well-conducted, intelligent and capable pilots; that owing to the wholesome competition the pilotage business never was attended to in such a satisfactory manner as it has been since the repeal of the pilot law about seven years ago.

That was the repeal of the law which had been compulsory up to that time.

That the object of the pilots in asking the legislature for a law at the present time is chiefly to lessen the competition and to compel parties to employ them who do not require their services, thereby returning in some degree to the old monopoly system. That they consider it unjust that privileges should be granted to pilots which are denied to other citizens, and for these reasons the undersigned are opposed to, and most respectfully remonstrate against the passage of any law proposing to regulate pilotage at the port of New York.

That was signed by the prominent underwriters and merchants of the city of New York.

Again, in 1880, the underwriters of the city of New York expressed themselves in favor of the abolition of compulsory pilotage in this language:

We, the undersigned merchants and insurance companies of New York City, are strongly in favor of the abolition of compulsory pilotage for New York and in favor of reasonable reduction of the pilotage rates. A change is demanded in the interest of shipping as well as in the commercial interests throughout the sea-coast generally. We believe the result will show that no prudent ship-master will then attempt to evade the pilot fees; that marine risks will not be enhanced by the change, and while no interest will be neglected, the pilot interests will be greatly benefited by the improvement which the proposed change will inaugurate.

That was signed by nearly all the insurance companies of the city of New York at the time.

It might properly be remarked here that it was during this period of non-compulsory pilotage in New York that our commerce grew with such wondrous rapidity; our merchant marine was the finest that had ever floated on the sea. At that time we built and sailed large amounts of wooden tonnage. Ships constructed entirely of iron were then almost unknown. In 1854 an iron ship was a curiosity in the docks of Liverpool, and steam was but little used in ocean navigation. If, then, at any time pilotage should have been compulsory, it was at this very time when it was non-compulsory. Then it was that the vessel depended almost entirely upon the winds for motive power, and her course must necessarily be devious; while now, with the aid of steam, the course can be as clearly shaped as that of the locomotive upon its track of steel.

This now well-nigh universal use of steam is a most potent reason for the abolishment or modification of the compulsory pilotage system. In this connection it might not be unwise to inquire how the pilot first came into being. The only excuse for his existence as a pilot is that he is needed, but, if needed, no compelling power can be necessary to effect his employment, any more than it is requisite to compel the sick to employ a physician. How came the pilot to be? While listening to the gentleman who so vividly portrayed the dangers of approaching our coasts without pilots, I marveled more and more at the hardihood of Columbus and the Pilgrims. The Mayflower had no pilot. Then commenced our commerce. Pilots had not then been created; commerce created them. They grew out of the needs of commerce. They were its creatures; not its masters. The introduction of the compulsory feature is an acknowledgment on the part of the pilots that their services are no longer a universal want. And you will please notice that the time of the introduction of that objectionable feature of the pilotage laws of the State of New York is about the time when steam as a motive

power upon the seas was assuming importance - the time when the use of the tug in towing sailing vessels in and out of port was growing into common use.

A curious circumstance connected with this compulsory pilotage is that it forces the master of a vessel to employ a pilot, yet does not supplant his authority. Nor can that authority ever be set aside with safety. This being so, you find that after compelling the employment of the pilot, the master must decide upon the pilot's competency and knowledge, and must displace him and again assume the active command of his vessel should the pilot be inefficient or incapable. That is, *he* is an expert in determining the qualifications of the pilot forced upon him, but an ignoramus in determining his own ability to judge as to the necessity of the pilot's service.

But let us consider for a moment whether the importance of pilotage is not greatly overestimated. For what purpose does Congress authorize such large expenditures of money in the erection and equipment of light-houses, beacons, and buoys, and in the maintenance of the Coast Survey, which takes soundings all along our coasts and in all our harbors, and carefully ascertains the location of obstructions, fixes accurately their bearings, and places buoys indicating the deep-water channels? Is it not so that all who sail in these waters may safely find their way—not that all these instrumentalities shall be for the exclusive benefit of the pilots?

One word about buoys. They are painted in two colors, red and black; and between these two buoys are indicated the deep-water channels. In entering a port the universal law is that you shall keep the red buoy upon your right or starboard side, and the black buoy upon your left or port side, and in departing from port of course the opposite rule is to be observed. There is nothing very difficult about that, I think. Why, gentlemen, in the far East are ports more difficult of access than many of ours and where no pilots are to be found; yet our ships, under the guidance of our captains, observing this rule regarding the buoys, enter and depart with safety.

We have heard a good deal about the skill of the pilots. We are not here to complain of their want of skill, but we do say that the masters of vessels are possessed of quite as much. You will all recollect that when the Atlantic cable was broken and telegraphic communication was interrupted, by test the break was stated to be a certain number of miles from the English coast, and a steamer was dispatched to repair it. Many said that the cable could never be found. Now, bear in mind that a position on the water is determined by imaginary lines called longitude and latitude. The intersection of the lines of latitude and longitude is but at a pin's point. The slightest mistake means a great deal—the mistake of one minute means a mistake of about a mile. Now, having that in mind, let us observe. The ship sails, guided only by the sun by day and the stars by night. That vessel proceeds to a point above which the break is said to be, and on letting down the grapnel for, I think, the second time, that little cord of wire is brought up on the vessel's deck. The other end quickly follows; the splice is made, and in less time than I have taken to tell it the news is flashed around the world. Does the skill of the captain who can accomplish such a feat as that, fathoms below the trackless sea, require a pilot—with all your lights, beacons, and buoys to guide him—least of all, does he not know whether he requires a pilot or not?

One reason why we think Congress should act on this matter is because of the abuses which have grown up under State regulation, and

because also of the conflicting laws of the different States. Maine, with the most dangerous coast on the Atlantic shore, and with the largest number of harbors, has non-compulsory pilotage, and the system works admirably. Little New Hampshire, with her solitary seaport, has non-compulsory pilotage and no fixed rates.

By Mr. LONG:

Question. How is it about pilots in Maine and New Hampshire; there are pilots there, of course?—Answer. Certainly.

Q. What success do they meet with? How are they affected by the absence of a law?—A. There are always as many as are required.

By Mr. DINGLEY:

Q. Are there anywhere any more efficient pilots than those on the coast of Maine?—A. I think I have made it clear that there are not, because the coast is a most dangerous one. The current in Portsmouth, N. H., will attain a velocity of six miles an hour. So violent is the current there that it was never known to freeze.

By Mr. RICHARDSON:

Q. The question is, I suppose, is there any difficulty in obtaining pilots in these parts when you want them?—A. Certainly not. Massachusetts, where the first ship sailed in without a pilot, has, I regret to say, retrograded in this respect. She has a compulsory pilotage law—and a very clumsy one. For Boston Harbor, between two head lights an imaginary line is drawn, and a vessel bound in, when outside this line must take a pilot. If she gets inside without one she may proceed without taking a pilot, but in going out of Boston she must take the pilot inside the line and he leaves the vessel before getting outside of it. So you see that when coming in the pilot is unnecessary, but in going out he is necessary. At New York we have two ways of coming in and of going out; one via Sandy Hook, and the other via Hell Gate and Long Island Sound. Pilotage by Sandy Hook is much higher than by Hell Gate. Sandy Hook is the natural and shortest way to the sea for any vessel bound other than coastwise or to the British Provinces. Yet, this compulsory feature of pilotage compels hundreds of vessels going to Cuba, China, &c., via Hell Gate, to take a pilot, and they can get the services of a tug and pilot via Hell Gate, and then a Long Island pilot, who makes his own bargain, and will proceed with the vessel one hundred miles for less money than the fee of the Sandy Hook pilot alone for going a distance of 20 miles.

Delaware and Pennsylvania have conflicting laws as to rates of pilotage on the Delaware. Maryland and Virginia, I think, have some conflicting laws. Georgia has a compulsory law regarding vessels owned in other States. Florida has something of the same kind, and so it goes, as a rule. Even in the State of New York the Hell Gate pilots have entered into a compact to let tonnage owned in certain counties of the State go free from pilotage, in order to secure the votes of the representatives of those counties in favor of the continuance of the infamous law. I say "infamous law," because under the sanction of that law pilots in the State of New York have been known in the summer season to go as far as Vineyard Haven, and in the State of Massachusetts have given the poor captain a receipted bill for pilotage, and in place of rendering services have remained to pick up another victim.

A gentleman made some remarks yesterday regarding the navigation of the mouth of the Mississippi. I think that gentleman was misinformed. I am happy to say that we have here a very intelligent captain who has

made frequent voyages to that port, and who will be able, I think, to convince you, gentlemen, that our friend was very much at fault or very much misinformed in the statements he made. The navigation at the mouth of the Mississippi is not so difficult as was represented. With your permission I will ask Captain Richardson if he has not at all times been able to get a tug-boat at the mouth of the Mississippi quite as soon as a pilot.

Captain RICHARDSON. Yes.

Mr. CHASE. I will ask if the services of the tug are not more acceptable than the pilot.

Captain RICHARDSON. Always.

Mr. CHASE. I will ask if you would not prefer to have your vessel going to New Orleans guided solely by the tug rather than to have the additional expense and no resulting benefit by the presence of a pilot.

Captain RICHARDSON. Yes.

Mr. HUNT. Those questions, Mr. Chase, are rather leading on a subject that I know something about. I would like to ask this gentleman some questions upon that subject. [To Captain Richardson.] How often have you been through the harbor of New Orleans?

Captain RICHARDSON. I have been through the jetties three times.

Mr. HUNT. Is that all?

Captain RICHARDSON. Yes, sir.

Mr. HUNT. I live at the mouth of the Mississippi and know something about it and have been there very often. You spoke of tugs there. What is the character of the tugs that you speak of?

Captain RICHARDSON. The most able tugs I know of.

Mr. HUNT. Is that such a tug as these gentlemen referred to when they spoke of tugs here in the harbors of the east? Is it a tug-boat in the understanding of the term "tug" as used here, or is it a pilot-boat that you get there?

Captain RICHARDSON. Oh, no; the pilot-boat does not tow us at all; it is a tug.

Mr. HUNT. What sort of tug?

Captain RICHARDSON. It is a tug that is able to take three or four ships and tow them against the tide.

Mr. HUNT. It is not a tug in the same sense that is indicated by the term "tug" in the harbors of the East?

Captain RICHARDSON. Well, it is a tug.

Mr. HUNT. Can you describe the sort of tug it is, so that we may have an idea of it?

Captain RICHARDSON. It is a tug, as I have said, that can tow three or four ships up against stream for 100 miles.

Mr. HUNT. It is a big steamer, is it not, of powerful construction?

Captain RICHARDSON. Yes, sir.

Mr. HUNT. When you have gone up with the steamer have you never had a pilot along?

Captain RICHARDSON. Not up, but only through the jetties.

Mr. HUNT. Now, are you prepared to say that you would be willing to take your ship through the jetties without a pilot?

Captain RICHARDSON. Yes, sir; if a pilot was not compulsory I would not pay one dollar for pilotage.

Mr. HUNT. Would you be willing to take your ship through the jetties yourself?

Captain RICHARDSON. Certainly.

Mr. HUNT. Do you know how wide the channel is in the jetties?

Captain RICHARDSON. I suppose that for 23 or 24 feet it may not be more than 300 feet wide.

Mr. HUNT. Do you know whether or not it is constantly shifting?

Captain RICHARDSON. No, it is not constantly shifting.

Mr. HUNT. You are prepared to affirm that?

Captain RICHARDSON. Yes, sir. They have found shoals up farther than the pilot goes, or farther than he went with me.

Mr. HUNT. I would prefer if you would be kind enough to answer the question—if you don't know, say so—whether or not the channel is shifting?

Captain RICHARDSON. The channel is not shifting, in my opinion.

Mr. HUNT. Have you any knowledge on the subject, or is it an opinion that you express, because this is a matter affecting one of the most important experiments in the country of which the Government has record. Is it opinion on your part, or have you any knowledge on the subject?

Captain RICHARDSON. I have a general knowledge.

Mr. HUNT. What is that knowledge derived from?

Captain RICHARDSON. I say that the channel does not shift since the jetties were made there.

Mr. HUNT. I ask what your knowledge is derived from?

Captain RICHARDSON. Because they never mentioned its shifting and we go right in and out. The jetties are there to keep the channels open and the Government places no buoys there in the channel-way.

Mr. HUNT. Are there no buoys there?

Captain RICHARDSON. There are buoys, but none in the channel-way, and there is no change, because there can be none. There is a buoy outside of the eastern jetty.

Mr. HUNT. Had the buoys been changed in the intervals of your visits?

Captain RICHARDSON. No.

Mr. HUNT. At what intervals have you visited that port; you say you have been there three times?

Captain RICHARDSON. It will be four years next May.

Mr. HUNT. Since you were there?

Captain RICHARDSON. No, sir; that was the first time since the jetties were built; then I was there three years this month, and again eight months ago.

Mr. HUNT. Those are the only times that you have ever visited there?

Captain RICHARDSON. Since the jetties were built.

Mr. HUNT. Have you ever inquired as to whether the channel shifted?

Captain RICHARDSON. Certainly. That was my business, to inquire, and I did so.

Mr. HUNT. And your information is that it does not shift?

Captain RICHARDSON. Yes, sir.

Mr. HUNT. Is the current swift there?

Captain RICHARDSON. Yes, sir; very swift.

Mr. HUNT. How swift?

Captain RICHARDSON. I should say 3 miles an hour.

Mr. HUNT. It is your judgment that it is safe to go through the jetties without a pilot?

Captain RICHARDSON. Yes, sir.

Mr. HUNT. And you would be willing to do it?

Captain RICHARDSON. I should do it if it was not compulsory to take a pilot. I should never want to take one.

Mr. BECKWITH. Is the channel beyond the jetties—the south end of

the jetties—in prolongation of the line of the jetties, or does it deflect either way?

Captain RICHARDSON. It is straight—one channel.

Mr. BECKWITH. You know of no lump in the middle?

Captain RICHARDSON. No.

Mr. BECKWITH. You do not know that there is only 14 feet of water at a point in the direct prolongation of the axis of these jetties, and within 400 feet of the end of the jetties?

Captain RICHARDSON. I have just mentioned that there is a buoy that lies off the eastern end.

Mr. BECKWITH. There is not a buoy within a mile.

Captain RICHARDSON. There is a buoy that lies off the eastern end.

Mr. BECKWITH. I ask you if there is not a place having only 14 feet of water on the south of the jetties at any distance within 400 feet to the eastward of the jetties?

Captain RICHARDSON. Yes; direct out from the eastern jetty.

Mr. BECKWITH. What course would you take to come into what is called the east channel from the southward and eastward?

Captain RICHARDSON. To come inside of that shoal?

Mr. BECKWITH. Yes.

Captain RICHARDSON. I would not go in between the jetty and that shoal, but straight in, with the channel right before me.

Mr. BECKWITH. Drawing how much water?

Captain RICHARDSON. Twenty feet.

Mr. BECKWITH. You would never get in, then.

Captain RICHARDSON. What, with the channel straight open before me?

Mr. BECKWITH. Yes.

Captain RICHARDSON. Yes, sir; I should.

Mr. BECKWITH. There are two channels, the east and west channels, divided by a lump nearly 300 feet long, with a maximum depth of 17 feet and a minimum of 14 feet. Now, one or the other—the east or the west channel—must be taken to come in, and I ask you if you know the compass bearing of either on an inward course?

Captain RICHARDSON. The eastern channel is no safe channel for any stranger to take inside of that shoal. It would be very narrow, indeed. No captain keeps every channel in his head, however, because he has the Government chart to put his eye on at any moment.

Mr. BECKWITH. Do you know of any vessel drawing 20 feet of water that ever went into the west channel?

Captain RICHARDSON. You can call it the west or the east, as you like—the channel is straight open before you.

Mr. BECKWITH. There is none such. The prolongation of the channel of the jetties is a lump, with only 14 feet of water, and you have got to go either east or west of that. Now, I ask you if you know the depth of water in the west channel? I assure you that no vessel drawing 22 feet of water has even gone in there.

Captain RICHARDSON. The channel is straight out as I have seen it.

Mr. BECKWITH. I say that no vessel drawing 22 feet of water can go in in any other way than by the east channel.

Mr. LONG. You say you would not take a pilot unless it were compulsory?

Captain RICHARDSON. No, sir.

Mr. LONG. Do you mean to say you would go without a pilot and without a tug-boat, too?

Captain RICHARDSON. I have never seen any vessel go in without a tug. The tug takes us in from outside.

Mr. LORE. Is not the tug under the charge of the pilot?

Captain RICHARDSON. No, sir.

Mr. RICHARDSON. I have only seen this gentleman [Captain Richardson] a few minutes, but he has an acquaintance with harbors all over the world.

Mr. CHASE. Something has been said about these tugs. I think I know something about them. If the gentleman has an idea that the little tugs which he sees floating about the rivers of the city of New York are the tugs which go to sea, I have no doubt he would be glad to be enlightened. These tugs which perform sea service, which go outside, searching for vessels to tow in, are limited in number. They are constructed particularly for that purpose, are of great buoyancy and seaworthiness, and are capable of going out to sea in very stormy weather—very much more stormy weather than any little skiff could stand such as our friend has described as putting off from a pilot boat.

Within the last three weeks certainly all of you must have heard that two of these ocean leviathans of the White Star Line became disabled at sea. When the news of their being disabled reached their agents at Liverpool, what was done? Why, within a fortnight the steam-tug Challenger (that, I think, was the name) was dispatched from Queenstown to go out on that mighty ocean and find that ship and bring her in, and you know that she has done it. Yet our friend would tell you that one of these tug-boats would be dashed into atoms if it undertook to take charge of a vessel to tow, and that one of these little cockleshell pilot-boats could perform the service in perfect safety. I think our friend has not been to sea. I have been there and I know something about it.

I am very much obliged to you, gentlemen of the committee, for the attention with which you have heard me, and if you present a favorable report on this bill you will have the everlasting gratitude of shipowners and shipmasters.

WASHINGTON, D. C., *February* 14, 1884.

HERBERT A. DEAN examined.

The WITNESS. I am here to represent the vessel-owners of our immediate vicinity, Taunton, Mass. In 1879 there were owned, in that place, thirty-six vessels, mostly three-masted schooners, but some two-masted. Since 1879 we have added to that fleet between thirty and forty, mostly three-masted schooners, but some four-masted schooners, carrying from 800 to 1,700 tons of dead burden. At an average cost of construction of $40,000 the amount of money now in vessels of this class in our vicinity amounts to about $1,500,000. Of that million and a half of money not over $100,000 is insured. We are self-insuring. Our vessels are engaged mostly in the coastwise trade. In the summer we are engaged in carrying coal from Baltimore, Georgetown, and Philadelphia to Eastern ports. In the winter those vessels are usually employed, some of them in the same business, and some of them going to Southern ports; quite a number of them for lumber, cotton, and naval stores, and quite a number of them are engaged in the West India business.

There are laws that were passed a hundred years ago to regulate our commerce, and to make it safe for vessels to get in and out of port; or,

in other words, to always supply them with pilots. That was the only knowledge we had to get in and out, the knowledge that we got from the pilot and the captain. There were then but very few light-houses, but very few beacons, and less buoys, and no tug-boats whatever. Since that time our Government has expended millions of dollars to improve our harbors and the entrances to them, and to show to our mariners, as they approached them, the dangerous places, and to indicate where safety was to be found. We, as vessel owners, have to contribute to the General Government for that expense. I do not complain of this, but our Government still allows to remain on the statute books laws that we believe are of no account, but, rather, are detrimental to the interests of vessel owners. For instance, the law is such that a State can pass a law to regulate pilotage in that State. In the State of Maryland, for instance, the law is such that a vessel like those that I represent, when going into Baltimore, can be taxed six cents a ton.

By Mr. DINGLEY:

Question. For pilotage?—Answer. Yes, sir; for pilotage. We have a vessel that goes to Baltimore, whose registered tonnage is 800 tons. The pilot commissioner or his collector, or somebody—mostly always a collector—presents to our captain, or some one in charge of that vessel, a bill for collection. They do not question the ability of whoever is in charge; whether it be cook or captain or mate or New England skipper, whoever he is, they present him with this bill, at six cents a ton for 800 tons, making $48, and we have to pay that bill, and we are then allowed to let that vessel go there for a year.

By Mr. LONG:

Q. Without a pilotage?—A. Without a pilot. In other words, we pay the pilots of Baltimore on that vessel $48 a year, for which we receive no compensation whatever. And it simply amounts to their saying to us, "Give us $48, and we will keep our hands off you." The tax that we, as vessel owners in Massachusetts, pay to pilots of Baltimore amounts to something over $1,500 a year, for which sum no service whatever is rendered. I doubt if there has been a Baltimore pilot on one of our vessels to render any other service than to collect his fee, for the last two years.

There has been opened, as you may know, a railroad to Newport News, where a great deal of bituminous coal is sent. We had a vessel within a few weeks go to that place and get a cargo of coal. Her registered tonnage was a thousand and some odd tons. According to the present law of Virginia they have a right to levy and assess a fee of ten cents a ton and, if we don't pay, to stop our vessel.

Q. For pilotage?—A. For pilotage. That vessel went to Newport News. She had loaded her coal at Portsmouth, N. H. She paid to the pilots' collector at Newport News ten cents a ton, amounting to over $100, for which no service whatever was rendered. The vessel was towed into port and out of port. And I would say that at Baltimore there is not one in a hundred, if one in five hundred of our vessels going there for general cargoes of coal or for West India goods, but what they have to be towed in and out. Sometimes they sail out, but never in. They are always towed in. They are never obliged to wait for any tug; they always find them.

By Mr. HUNT:

Q. That $48 you speak of is paid by you by arrangement, a compounding between you and the pilots?—A. No, sir; that is the law of the State of Maryland.

Q. Is that the whole amount for your vessel?—A. Yes; I am speaking now of coastwise cargoes. If she goes to the West Indies or any place of that kind it is different. This is a coastwise charge.

By Mr. CHASE:

Q. You speak of a schooner of a thousand tons going to Portsmouth, N. H. There is no compulsory pilotage there, is there?—A. No, sir.

Q. Have you had any difficulty in getting a pilot there?—A. No.

By Mr. LORE:

Q. Do you ever use a pilot there?—A. No, I don't know that I ever have. We have used tug-boats. I beg pardon; we have used a pilot at Portsmouth. I was going to say that on this tonnage we had to pay $100 to get our cargo, and for that $100 no service was rendered. We could go into New England and deliver that cargo without paying any tax to any one. If we go farther down the coast, for instance, to Wilmington, N. C.; there we have to pay both a bar pilotage and a river pilotage. If any of you are acquainted down there you know that there is a long shoal called Frying Pan Shoal, and by there there is a light-house. Now, our New England skippers are acquainted all about there, and it is very rarely that you will find a New England skipper going on that shoal. After passing that shoal, which is 20 miles from shore, I have met tug-boats, and I have taken the tug and towed to Wilmington. The boat has then discharged and loaded and then been towed back down the river and out to sea; and I have paid for that service less than one-half what I have paid to the bar and river pilots, who simply came aboard the vessel and sat or lay under the awning aft in the shade, and did me no service whatever. The vessel was not insured; we were taking our own chances as owners, and still we were obliged, according to the laws of that State, to pay that pilot double the amount we paid to be towed in from the sea and back again to the sea. They speak of the dangers that pilots encounter. Now, a New England skipper has often gone into port over the bar, after the pilots have been unwilling to come out. We have set our signals for them, and they haven't come out within twenty-four hours. According to my experience in approaching Southern coasts, when we want a pilot most that is the very time we can get them least. If it is rough weather we have very hard work to get them to come out.

By Mr. RICHARDSON:

Q. That is because they have a monopoly, I suppose?—A. Well, any way, they will have the pilotage on that vessel when the vessel comes in. Therefore they can afford to wait.

By Mr. LONG:

Q. The monopoly destroys all ambition to come out?—A. Yes. Then, if we go to Galveston, Tex., which is the only outlet for the cotton crop of that great State, and many of our vessels go there in the winter time for business, and take cotton and bring it up from Texas to the manufacturers of New England—if we go to Galveston, we find it less than three miles from where we anchor to the dock, and the bar pilotage at Galveston amounts to more than three times the amount which it costs to tow in and out over the Galveston bar. I have waited three days at that bar for a favorable chance for a pilot to take me in over the bar, when there was a tug-boat that could take me in at any moment. I didn't feel that I was doing justice to myself and to the owners of the vessel to employ a tug-boat when the law of Texas compelled me any-

how to pay for a pilot. And after waiting three days at one time, and starting in, we got over the bar, and then the wind gave out and there we were. Now, if you were on that vessel, which would you rather have, a pilot to take her in when the wind lets down and leaves you after getting over the bar, or a powerful tug to take you right in at once? Why, it seems to me that it is a plain matter of A, B, C.

In those Southern ports in these later years we have had no difficulty in getting pilots, and I think there is enterprise enough in our New England skippers, in case the people of New Orleans or anywhere else should not provide tug-boats enough, for them to go down there, or send capital and brains down there, to do the work.

Q. You say there are tug-boats there already?—A. Yes; as far as I know anything about it.

Q. Do you know anything about the Mississippi?—A. No. I have avoided that dangerous place; but I have been informed about it; and taking the statements of the gentleman here before you, who spoke yesterday, you find that he admits that there are some vessels there that he does not call tugs, but something more powerful always ready to take ships in. He claims that they are not tugs, but something powerful enough to take three ships up against the current. We know what they are, what they must be; they must cost considerable money; and do you think that the gentlemen who own these powerful vessels which this gentleman does not call tugs, but propelling vessels, would send their vessels out in that dangerous place without having a pilot on board? Here [indicating Captain Richardson] is a gentleman who says he has never found any trouble in getting through that dangerous place. I should like to ask how that ship could help getting into New Orleans behind a tug of that very powerful kind that he speaks of, which hauls three of them up with a short hawser? I would like to ask the gentleman if he ever knew a case at New Orleans where a pilot was on a ship's deck and said to the captain of the tug, "You are not towing this ship as she ought to be towed, therefore cast off the hawser"? I never heard of an instance. The pilot is willing in all instances, and in all places that I know of, from New York to Galveston, to let the pilot of the tug-boat take the ship and tow her where he pleases. That is a fact that won't be disputed. Now, if we have competent pilots on the tug-boats, why does Congress allow these laws to remain on the statute books compelling us to take pilots in addition? One thing I am pleased to see. I have been before the Committee on Commerce a number of times in regard to this question, and I have never known any opposition to the abolition of compulsory pilotage except from the pilots. No vessel-owners or any other class of men object to it. But the gentleman comes here with his legal learning and says, "You must keep this law in force because there are a number of pilots to be maintained." We don't ask you to favor us by any law. We don't ask you to favor our shipping. We simply ask you to take off these obnoxious charges. I am very much obliged to you, gentlemen, for hearing me, and I am very glad to hear that Congress is doing something for American shipping. There have been laws for almost every other branch of industry in the United States, but what has been done for American shipping?

WASHINGTON, D. C., *February* 14, 1884.

JOHN E. MILLER examined.

The WITNESS. I represent, in part, here, the New York Maritime Association. I have been connected with shipping for thirty-seven years, and have been an owner of vessels for over thirty years. It gives the association of which I am a delegate great pleasure to see some interest taken by Congress in this matter. We believe that the reason for this committee being appointed is that it may do something to relieve American shipping from some of the onerous burdens which at present are weighing it down. There is hardly anything that bears more heavily on us than this compulsory pilotage. Notwithstanding what was mentioned yesterday by Mr. Richardson I do not think you gentlemen exactly understand the position of New York with regard to this question. You may think that we are relieved from compulsory pilotage through Hell Gate, but that is a mistake. Nearly three million dollars have been expended by the United States Government in relieving Hell Gate, and yet to-day a vessel coming from New Haven—and there are quite a number that come from there, sailing from there to the West Indies and other ports—if it comes in byway of Sandy Hook it has to pay the Sandy Hook pilotage and also the Hell Gate pilotage. Then the vessel goes to New Haven; and coming back again, unless they change from register to license, they have to pay the pilotage down to New York again. So that you have no idea what it will cost in one year. Many of the vessels sailing from New York to the eastern Provinces will make, say, eight or ten trips a year, sailing under register. They have to pay about thirty dollars a trip for passing through Hell Gate. That, in the course of a year, amounts to $300. Then, we have to pay an internal-revenue tax of 30 cents a ton. That would make another hundred dollars. These vessels are scarcely worth more than $3,000 or $4,000; and there is a tax of ten per cent. that we have to pay on them. As a rule these vessels tow through, and they generally come through at one time of tide. They are towed through by tugs, two or three vessels on each side. These Hell Gate pilots do not pretend to pilot those vessels down, but board the vessels from a small boat, and stepping on board the vessel, ask the captain for the pilotage. He pays half pilotage and they give him a receipted bill. The pilot then jumps into a small boat and waits for another vessel; and this process is repeated day after day.

The Association of which I am a delegate have expressed an opinion for years past in favor of non-compulsory pilotage; and we hope that that will be the position which this committee will take—allowing us to choose whether we want a pilot or not. The majority of vessels owned in New York and in the United States are not insured, for the reason that they cannot pay the premiums. Speaking from my own experience I will guarantee that in every hundred thousand dollars worth of vessel property the net income in the last three years has not been equal to 11 per cent. a year. If we should insure, and allow for depreciation of the property and interest on the money—for of course we have to charge the vessel property with insurance, depreciation, and interest—I say, if we were to charge all those up, we would be minus about 10 per cent. a year. We manage our vessels as carefully as we can; and yet I do not consider that in the last five years I would have made a dollar off my vessel property if I had made any charge for depreciation. Of course the vessel is getting older all the time and this charge for depreciation ought properly to be made against it. In olden times we used to charge at the rate of one per cent. a month for that;

but now only about one-half of 1 per cent. a month is charged. But I say that if we were to charge up insurance premiums and depreciation and interest on the money, we would be short 10 per cent. a year. Do you think I am right in that, Mr. Emery?

Mr. EMERY. I think so.

The WITNESS. Now, if a thing is good for one it ought to be good for another. If compulsory pilotage is good for one class of persons it ought to be good for all. In New York we discriminate between licensed and registered vessels. Most of the tonnage of American vessels is under license. The moment vessels change their papers they have to pay a tonnage tax and submit themselves to pilotage laws at once. See how heavily that bears. A ship can start from New York for New Orleans or San Francisco, under license, and not be compelled to pay pilotage. If a vessel goes to Bermuda or to a foreign port it has to pay pilotage. See how heavily that bears on a vessel or on the owner, who is trying to develop the commercial interests of his country in foreign lands—and that is one of the great things accomplished by commerce.

The whole course of history has shown that as soon as a commercial nation ceases to advance the interests of its foreign commerce, that very day it begins to retrograde. Look at England, one of the smallest territories in the world. By her strict attenton to her foreign trade and the maintenance of her mercantile marine she has established the greatest commerce of any nation in the world.

Some of you gentlemen here may think that it is only against pilots that we are working, but it is not against pilots. If you want capital to go into shipping you must relieve commerce from these burdens; you must stop legislating against tonnage. It has been the policy of Congress to legislate against tonnage. You want open markets for your goods.

If any of you have traveled in South America you know that it is almost impossible to get any American goods there. I was speaking lately to a gentleman who was down in Valparaiso for six months; and he said he could not get a single article of American manufacture there.

The General Government of this country—not the government of the several States—has at vast expense buoyed, lighted, and charted all its ocean coasts and waters, and has widely published to the world the means of entering every harbor, bay, and inlet along the whole coast of the United States. So completely has this been done that the Government—your own Government—has forbidden its naval vessels to employ State pilots. It justly claims that navigators who traverse the trackless ocean to the gateway of their destination are able, by the aids which the Government has provided, to enter and to anchor. Secretary Chandler has ordered the masters of naval vessels not to employ State pilots, and the result is that these vessels go in and out of our harbors without being compelled to submit to these pilotage charges. If that is good for the Government vessels is it not good for the mercantile marine?

Furthermore, during the time of the "late unpleasantness" our masters were not able to enter the Southern ports. One of these down-east skippers, who happened to be my brother-in-law, helped to lay out and buoy the channel in the Mississippi by which Farragut and his fleet were able to ascend. Now, I think that all of us, no matter what our views were at that time, must certainly concede that that was a wise and able project. Why, then, should the Government permit the people to be deprived of immunity from this injust tax—of the injustice of which the Government, by its action, is itself a witness. The very fact that the Government orders its naval vessels not to employ pilots and

yet permits that we shall be compelled to employ them, or pay them if we do not employ them, for that is what it amounts to, is enough to condemn the Government.

Now, a word or two about tugs, and a little about the pilotage of the port of New York. In 1853 the tonnage of New York was 1,500,000 tons. In 1881 it was 7,500,000 tons; showing an increase of 500 per cent. With the same number of pilots, what has made that difference? If we had had sail only, as we had in the years before, and if we had had no tugs, it would have been necessary to multiply those pilots four or five times over. It used then to take days to accomplish that which it now takes only hours to accomplish. You can see how heavily this burden bears when I tell you that at least three out of five—I think I am right in that number—of the sailing vessels that come into the port of New York are towed in. I maintain that a captain of one of those tugs that sails in and out of the harbor of New York, perhaps three or four times a week, going out in the morning thirty or forty miles outside of Sandy Hook, is certainly a more competent pilot than a man that goes once or twice only in a week, and then in a pilot boat. If we shipowners are willing to run our vessels without employing a pilot, certainly the pilots ought not to object, because we run the risk of our property, for, as I have told you, we are not insured.

By Mr. DINGLEY:

Q. And is not the master of this tug-boat a licensed pilot?—A. Yes, sir. The statement was made yesterday that if this bill was passed and became a law we would have all sorts of riffraff and tramps to become masters of those vessels—pilots. Now, is it true that if we abolish compulsory pilotage, chaos will come? I do not think so. The new law only modifies and limits the objectionable features in which State laws wrong their merchants and shipmasters. It is not credible that you gentlemen, representing the people of the United States, will concede that United States officials are less worthy of official trust than those of the States. For look at the way in which these laws clash. A vessel going to Philadelphia stops at the Delaware Breakwater and pays a pilotage, and when she gets to Philadelphia she pays another.

Captain Dean spoke of the conflict of the laws of Virginia. Yesterday I mentioned the case of the Boston vessel that went to Philadelphia; and mention was made of the laws of Georgia and Florida. They all differ, and they all discriminate. The tax is a very unfair and discriminating one—that the master of a coaster between Savannah and Charleston and Florida does not have to pay a pilotage, but any vessel sailing from New York or a Northern port does have to pay pilotage.

It is time for Congress to take a position on this question, and either abolish the thing altogether or manage it altogether, when these States have such differing systems of charges among themselves. Mr. Dean spoke about Baltimore. Let me speak a little of our port. In the fall of the year many of our 450 or 500 ton vessels go "off shore," as we call it—to Cuba, Mexico, and occasionally elsewhere. They draw 14 to 15 feet of water, and their pilotage out is $35 to $40. We are compelled, as soon as we change from license to register, to employ a pilot. The pilots ascertain that this vessel has changed her papers, and that she is going "off shore." If she is a small vessel they do not think it worth while to bother with her. I happened to be present twice when vessels were going out with one of the best of pilots on board, in the shape of a captain. On one of these occasions a pilot came to the captain and said, "Captain, I hear you are going to Saint Croix." The captain says,

"Yes." "Do you want a pilot?" "No; I don't want a pilot." "Well," he says, "here is the law, and you have to have a pilot. You draw 14 feet of water, and your pilotage will be $30. I will give you a receipt for one-quarter off." So he gave the captain a receipt for $24, and the captain piloted his own vessel out. That, I state not from what I have heard, but from what I have seen, and that has happened many times in the course of thirty years of practical experience. Is it right that a citizen of the State should be subjected to such infamous laws as allow such outrages perpetrated?

There is a discrimination made, too, in some States between its own citizens. And it seems to me that it is about time that something should be done by Congress to relieve this difficulty of the shipping.

Now, with regard to amounts. The tax of pilotage in the port of New York in 1880 was about equal to about fifteen cents a ton. It was nearly one million dollars on 7,500,000 tons. It is a mere matter of calculation to find the exact amount.

By Mr. FINDLAY:

Q. What proportion of that was paid by foreign vessels?—A. I have no way of ascertaining that.

Q. Can you not make an approximate estimate?—A. No, sir; you cannot arrive at that.

By Mr. HUNT:

Q. Was it the greater or the lesser part?—A. The greater part.

Q. By far the greater part?—A. Yes; I should say it was by far the greater part.

By Mr. DINGLEY:

Q. But considering both the coastwise and foreign. While foreign vessels in the foreign trade pay considerably more than the American vessels in that trade, yet is it not true that when you come to add the American vessels in the coastwise trade the amount would be quite large?—A. Yes. And is it wise to discriminate? For, what is commerce? It is the creature of peace. The lower the charges, therefore, the better. Every one of these vessels pays not only pilotage, but wharfage, stevedore bills, and a considerable amount for ship chandlery, &c. If we have not tonnage of our own we do not want to put the port charges and taxes and pilotage so high as to drive the others away, and a very small percentage will drive commerce away from a port.

By Mr. LONG:

Q. The figures of Baltimore pilotage were submitted yesterday. About $90,000 was for foreign, and something over $7,000 for domestic vessels. Now, of that $90,000 paid for the pilotage of foreign ships, how large a proportion would be for foreign steamships?—A. I could not tell you. That was in Baltimore.

Q. Can you guess?—A. Because foreign steamships are not affected by the bill under consideration. Of that $90,000 paid for the pilotage of foreign commerce, how much was for foreign steamship commerce?

Mr. COOPER. Thirty thousand dollars, I think.

Mr. LONG. If it were $30,000 on foreign steamships, this bill would still leave the pilotage compulsory to the extent of $30,000 on foreign steamship commerce, and it would leave $60,000 on foreign commerce, and $7,000 on domestic commerce subject to pilotage, though not to compulsory pilotage.

The WITNESS. The office of the pilot commissioners is a sort of sealed

office. We can get very little information from it. We cannot get all the facts in the case. As near as we can make out, a pilot in New York will make from $4,000 to $4,300 a year. It is seldom that a master of one of our sailing vessels gets more than $100 a month. The masters of these foreign steamers, as a rule, get about three hundred to three hundred and fifty pounds a year. I think that the admiral of the Cunard fleet gets about five hundred pounds a year, or about $2,500; but the majority of them do not get more than from £300 to £350.

There is a line of steamers in New York, the James E. Ward & Co. line, sailing from New York to Havana. They are American steamers, and they pay their masters $200 a month. They generally make about two trips a month. Of those two trips, about six hours of each trip would cover the time of pilots; so that in the whole year there would be about 144 hours of pilot service. That is, the pilots would be on board those ships and doing service for Mr. Ward's line about 144 hours in the year. That is about six full days of 24 hours each. For that service they are paid according to the draught of the ship, and they get from $2,800 to $3,000 a year. That is to say, for these six days work on board these steamers a pilot is paid from $2,800 to $3,000. The master, who runs a much greater risk as far as danger is concerned, receives $2,400 a year. I merely mention those figures to show you how inadequate, in comparison with the compensation of the pilots, the compensation of the masters is.

By Mr. FINDLAY:

Q. Do you think the risk is the same?—A. The risk of the pilot is very little. The danger to him is very slight. The risk to the master is very much more. In the first place piloting is a healthy profession.

Mr. FINDLAY. We are not talking about health.

The WITNESS. Well, we have to speak of it as a whole. The risk of a master of a vessel to Cuba in the summer time is very serious.

Mr. FINDLAY. I am talking about the responsibility.

The WITNESS. But what do you cover by the word "responsibility"? The master has the responsibility of the ship and a valuable cargo resting on him, and perhaps the lives of seventy-five or a hundred passengers; and isn't that greater than the responsibility of a pilot?

Q. But is not the navigation of a bay more difficult than navigation in the open sea?—A. No, sir. There is hardly a prominent port in the world now that is so easy of access as the port of New York.

Mr. FINDLAY. Well, that is only one port, you know.

The WITNESS. I thought you were speaking of this line of James E. Ward & Co.

Mr. FINDLAY. I am speaking of all ports, and all lines.

The WITNESS. Well, anyhow and anywhere the knowledge of a master of a vessel has to be very much more than the knowledge of a pilot. The master of a vessel has to be a scientist. The first question a pilot asks of a captain is, "Where do you head?" "How do you stand?" When these pilots get away from the headlands, a few miles, they are as a rule "at sea" in more senses than one. I have had my own experience to show me that.

Now, gentlemen, the effect of commerce on people is to make them a bold, warlike, and fearless people; and if you are going to take away from our people the privilege of following the sea, where are you going to get sailors in case of a war? You will always need sailors to man your vessels of war, and if you kill your commerce, as it is being killed now, you will soon have no sailors to man your men-of-war in time of danger.

By Mr. LORE:

Q. Has not this whole matter been carefully considered by a committee of the New York legislature, and testimony taken on both sides, ably presented by the representatives of both sides, and has not action been had by that legislature on the subject?—A. Yes, sir; last year.

Q. On several occasions has it not been up before them and been considered?—A. It has been up several times, and generally it has been decided against the mercantile interests.

Q. How many times has it been up before the legislature of New York?—A. For eight years, I think, about once a year.

Q. Has not a committee of that legislature taken testimony about it?—A. Not in New York City, but at Albany. Last year the bill regarding compulsory pilotage—to reduce the fees—passed the assembly by a vote of 85 to 14, but was defeated in the senate by one vote.

Q. This compulsory pilotage seems from your statement to be clearly onerous. Can you account for the refusal of the New York legislature to pass such a law as to remedy it?—A. Well, sir; every time we have gone to Albany we have found a delegation there of the pilots, represented by two leading pilots, one of whom never goes to sea, but attends to this legislation in these different commercial centers; and I have been told by several pilots—and the statement is in testimony also—that the pilots contribute, some say $10, some $20, a month towards a fund for legislative purposes in New York State. Every time we go there we are met by these pilots. All that we have asked from the legislature for the last two or three years is that they would get the pilots to come down from war prices. In 1863 the pilotage was increased 32 per cent. The bill prepared and presented by the chamber of commerce has been prepared with a view to getting them down to the rate of pilotage established in 1853, which was raised in 1863.

By Mr. HUNT:

Q. You have never asked them to abolish compulsory pilotage in the State of New York?—A. We did do so six years ago.

Q. And failed then?—A. Yes, failed in every attempt.

Q. You said you were present once when the pilot charged a heavy fee for doing nothing?—A. Yes; I can give the pilot's name, if you wish it.

Q. I do not ask for that. You have had large experience, however, in shipping matters?—A. Yes, sir.

Q. Is that the only case you know of, in your experience?—A. No.

Q. Were you present before?—A. Yes; once before.

Q. How many years experience have you had?—A. Thirty-three.

Q. On how many occasions were you present when this was done?—A. I think three or four times; but I have often paid the captain's bills for this service, given them the money for the bills.

By Mr. LONG:

Q. Would they have the receipted bills?—A. Yes.

By Mr. HUNT:

Q. I would like to know how often you have been present?—A. Well, I have not been present personally very often, because it is not my business to go down to the wharf. Still, I know it has been constantly done.

Mr. HUNT. I understood somebody to say that this was done also in Baltimore.

The WITNESS. I think Mr. Dean said that; that $48 was paid.

Mr. DEAN. A reduction is made on the full amount of the bill and the bill is then receipted—if the pilot is not taken on going out to New York. In such cases we never pay full pilotage, the pilot in all cases saying that he will take off one-third and give a receipted bill.

The WITNESS [to Captain Richardson]. You have had dealings with pilots. Have you any knowledge on this subject?

Captain RICHARDSON. Yes; my vessel was drawing 14 feet at one time, and the pilot came down and had a receipted bill for 11 feet, and I paid him the money.

Mr. LONG. Was that against the law?

Captain RICHARDSON. No; but it shows how unnecessary the law is.

Mr. LONG. You mention that as showing the needlessness of the compulsory law?

Captain RICHARDSON. Yes, sir.

Mr. J. B. RICHARDSON. We cannot get in the separate States what we ask for here, by reason of a law of Congress. We ask you to reduce or let up on sailing vessels on compulsory pilotage, leaving it on the large steamers. Section 4237 of the Revised Statutes says, "No regulations or provisions shall be adopted by any State which shall make any discrimination on the right of pilotage, &c., between the ports of different States or any discrimination against vessels propelled in whole or in part by steam, or against national vessels of the United States, and all such discriminations, &c., are hereby annulled and abrogated."

Two years ago the committee of the senate of Massachusetts unanimously reported in favor of the entire abolition of compulsory pilotage on sailing vessels. This section of the Revised Statutes was brought up by the lawyers of the senate who were on the other side of the question, and it met us right in the face. They said, "We can't do this thing, and you will have to go to Congress." I think ex-Governor Long is familiar with the facts in that case. They say that this is a matter pertaining to commerce, and we can't override or overrule the superior regulations in that respect of an act of Congress. That is why we are here. We do not ask to have compulsory pilotage removed from foreign steamers, where life as well as property is at stake. There the Government may have a right to interfere and say what shall be done for the protection of life. But many merchants question whether you have a right, on a mere load of hides, or mahogany, or lumber, or salt, to dictate to them that they shall take a pilot any more than to dictate that they shall be insured. We cannot get rid of compulsory pilotage on sailing vessels in the States on account of that statute.

Mr. DINGLEY. There seems to be some misapprehension as to the provisions of the first section of the bill. It was said yesterday that it was in the interest of foreign steamships. I want to ask you if it would relieve in any manner foreign steamships from compulsory pilotage?

Mr. RICHARDSON. I had supposed not.

Mr. DINGLEY. All that would be necessary would be for American steamship companies to allow the master or mate to be examined as a pilot, and pilot his own vessel. My impression is that no alien could get a certificate as captain, and our law in other sections, in regard to merchant vessels, declares that no officer on an American ship shall be an alien.

Mr. FINDLAY. Would not that be a discrimination in our favor and against some of the provisions of foreign treaties?

Mr. DINGLEY. We do not allow aliens now to be licensed as pilots to pilot even English vessels. It would require an American citizen to be a licensed pilot of any vessel.

Mr. FINDLAY. I understand that.

Mr. LONG. We allow our domestic steam vessels this privilege, but do not allow it to foreign steam vessels.

Mr. FINDLAY. But that does not meet the question.

Mr. RICHARDSON. This bill does not draw any line of nationality at all, but refers to all classes of vessels.

Mr. LONG. Your question, Mr. Findlay, applies to the present law, and not to the one we are considering.

Mr. RICHARDSON. In Boston we do not have to pay any compulsory pilotage on coastwise vessels going in and out, although if going to New Orleans we have to pay in New Orleans. But a New Orleans man may come up to Boston and have nothing to pay in Boston. The distinction here, however, is not on national lines, but on all classes of vessels.

WASHINGTON, D. C., *February* 14, 1884.

STATEMENT OF MR. J. R. BECKWITH IN OPPOSITION TO THE BILL.

The presentation of this matter seems to be somewhat unilateral, and it has rather surprised me. I wish to correct a misapprehension which perhaps emanated somewhat from my own statement. It was a misstatement of the proposition, as I understand it. I understand that this bill relates only to sailing vessels. The discussion on the other side has been almost entirely in the interest of the local ship-owners of particular ports, or the representatives of local owners in the various ports. It seems to be understood on the other side that I used the words "New England skipper" slightingly. I wish to correct that impression. I look upon that class of men as the most admirable class of sailors in the world, and I should certainly be the last man in the world to disparage them.

I desire now to call the attention of the committee to this bill. The discussion has been as if the bill, if adopted, would relieve these people in the coastwise trade from the burden of compulsory pilotage and have no other effect. Now, the bill is much broader than that, and means more than that. Section 4237 has been cited, and I am astonished that it should be cited in the connection in which it has been. It was one of the efforts of Congress—having before it the difficulties that I illustrated to you yesterday, arising out of the necessity of a bill for uniform pilotage for all ports—to carry out the adopted legislation of the States, with the conditions necessary to make it comply with the Constitution of the United States if it enforced equality in the various ports. That provision was adopted by Congress *ex necessitate*—from the conditions of the Constitution—so that, while adopting the systems of the States, it should eliminate from the systems of the States those things which made them unequal. Section 4237 was adopted by Congress on the broadest consideration of the necessities of the case and the constitutional limitations upon them after the case of The Steamships *vs.* Joliffe had determined that the act of 1852 did not relate to port pilotage.

The considerations that Congress dealt with in adopting that and limiting the exemption as to local port pilotage dues to American vessels going coastwise, and why they did not extend it to American vessels going foreignwise, was because of the fact that nearly every treaty I know of with foreign nations contains requirements that their vessels shall be put upon the same condition as our vessels. But these treaties

also have the "favored nation" clause, which is to the effect that if they take off these dues from American steamers going foreign, they take them off from the foreign steamers at the same time. I do not know of any nation but China (and I am not certain but that even China would be in the same category) which would not be covered by this clause, requiring that if you take off compulsory pilotage dues from American vessels, either sailing or steam, you take them off from the foreign vessels also.

This is a grave question under the stipulations of our treaties—and, as to that, every treaty would have to be considered from its text—whether, if you pass this bill, or take from the list of vessels which are required to contribute to the support of the pilot system, there would not be some danger of its being extended, under the stipulations of treaties, to steam vessels also.

Mr. LONG. The purpose of the bill is to extend it to every foreign sailing vessel.

Mr. RICHARDSON. I called attention to that section.

Mr. BECKWITH. As I said yesterday, as to this class of vessels—all vessels that are propelled by sail—you will, if you pass this bill, have demolished one system without establishing another. Now, if, under the treaties, these inspector pilots, as we call them, have a right to pilot American vessels to sea, every owner of a foreign ship has a right to to have one on his ship to take him to sea. It must necessarily develop a system of inspector pilots whose office it will be to destroy, so far as that class of vessels is concerned, the entire system of local pilots. It is unsafe to legislate such a condition of things into existence without the necessary concomitant legislation for the protection of the pilot himself. If one of these inspector pilots goes aboard a foreign vessel and pilots her into port and has a charge of $500, he certainly has a maritime lien for admiralty services. How is the master to escape that unless he goes to the Federal court and pays more than his pilotage is worth to get it? Is it a just discharge of our proper obligations to nations with which we are in commercial relationship to subject them to that? Would any Congress like to stand responsible for legislation that left all contracts of this character open to that uncertain factor of remuneration and the certain factor of contention that that provision would expose them to? Suppose as to one of those pilots—who cannot be expected to be attached to these foreign vessels, for they cannot expect to be attached to a vessel for the purpose of piloting it in and out of port—suppose that the ship is willing to discharge its duty to that man, but there is no boat ready to take him off; or suppose that the condition of things is such that the master does not find it convenient to let him off, or does not propose to let him off, and he is carried out to sea—to India or China or the North Sea—what is the position of that man? He is not under the guardianship of the United States or under any law that provides for his return, nor for any compensation that that ship is to give him for having carried him to sea—a provision which is in the laws of all the States, and it is a necessary provision. The American consul cannot send him home, because he did not go in any American vessel. He cannot demand of the master who brought him to sea that he shall deposit three months' wages, nor can the consul use the reserve fund under his control to send that man home.

I merely allude to this to show how broad the subject is, and what the constitutional and legal difficulties in the way are, and to call your attention to some of the difficulties that it would be almost criminal in Congress to overlook in any system attacking so seriously the estab-

lished systems of the States, and to undertake to destroy them, towards a certain class of vessels, leaving nothing in their place, even to the extent of protecting the new men whom you put in the place of the old.

Mr. O'NEILL. One of the sections of the Revised Statutes says: "And in no case shall the fee charged for pilotage of any steam vessel exceed the customary rates," &c.

Mr. BECKWITH. Well, the Government, having licensed a man and prescribed his fee, makes him a pilot under the present law. When he becomes attached under the ship's papers (and he is not a pilot until he does so) the law now says that that man shall not be embarrassed in having that position put on him. That is, that no State law shall say that before he can pilot a ship he shall not only get a certificate from the State but also from the United States; that is all that that means. This restriction under port charges can only apply to such vessels as go foreign, and are not required as to the coast ports, that they should put on vessels piloted in that manner no discriminations because of their being so equipped and because of their having such pilots. Now, the important element in section 4444 is this, in connection with the history of the subject. The Supreme Court, in dealing with the act of 1852 (which, when revised, became the act of 1853), undertook to deal with this question. They decided that this system of regulation of American vessels propelled in whole or in part by steam did not affect the local vessels going either foreign or coastwise. If they had had the power they would have carried the exemption from local port pilotage to both classes of vessels—the class going foreign and the class going coastwise. But they did not carry it to vessels going foreign under register, because the moment they did they released every steam vessel in the world. When this bill passes, if it does, and comes to be debated in the courts, it is a question whether or not, under the treaties, at least under some of them, and especially under the "favored nation" clause of all treaties, if you take the pilotage off one class of vessels you do not discriminate between the vessels on account of their method of propulsion. I believe that the danger is that the courts will consider a vessel as capable of navigation and destined to carry her cargo, however it may be propelled. It seems to me that this matter should have been considered on a broader basis by the gentlemen on the other side. That there may be faults in the systems of the various States or ports, which may be onerous upon shipowners, is possible.

Mr. HUNT. I would like to know about that, and how it is; whether those discriminations are an imposition and ought to be abolished—whether the system operates as a great hardship on commerce, or is useful and necessary.

Mr. BECKWITH. I suppose I have not been ambiguous about it. I state it candidly. I represent men who have a pecuniary interest in this matter, very many of whom have grown old in the service, a service which is not so safe as the gentlemen representing the other side would have you suppose. Many of the men engaged in the business have by a lifetime of service and exposure contracted permanent distortion through rheumatism, &c. I suppose that there are not in New Orleans more than 22 or 23 of that class of men who, if they were younger even, could turn their course of life into other channels, but who are still able to board vessels and perform such duties. There being an association of them, the harder service is dealt out to younger men. But I say unhesitatingly that if I did not represent them, and were here merely as a citizen, I should still insist that the experience

of 200 years should not be ignored, because it is nearly 200 years since this became a part of our shipping system, as it has been for a thousand years a part of the shipping system of other civilized nations. I do not know a nation that has not a compulsory pilotage. I do not know what we can do without it. If I were here without interest, if I were here as a member of the committee, I should be affected by several considerations; the first of which would be the extreme legal difficulties surrounding the case; another, the gravity of the results that might flow from the proposed change; and a third consideration would be the consequences which would follow any measure which would strike at the existence of the poor men who know every bay, harbor, and inlet along our coasts.

Mr. O'NEILL. Would they be struck at? Would they not all take out licenses under the United States, the younger and stronger men?

Mr BECKWITH. I do not know how shipping could exist without pilotage. Nothing has been said here about equipment. When a vessel goes to sea, she must have means and equipment for putting men on board vessels and taking them off. I do not see how gentlemen can say that the business is an easy one after reading so recently of the horrible calamity of the loss of the Columbia, by which seven or eight of the pilots of New York lost their lives, and were launched unshriven into eternity. I tell you, gentlemen, it is a very easy thing for people who have a pecuniary interest in reducing and lessening danger to reduce and lessen it. Take the whole history of the world, and you will find nothing so cheap as human life when it is to the interest of people to get it. As a commodity it can be had very cheaply, whether to build railroads or canals in unwholesome latitudes, as shown by the Panama Railroad and the Isthmus Canal, or to undertake the guidance of vessels in dangerous channels. For a slight advance in pay you can get men to navigate ships with almost certain death before them. I have known men to come to New Orleans when the air was full of death, for the consideration of $50 a month in excess of what they could get elsewhere. That $50 a month was the price they put on their lives, and in most instances they gave up their lives for that sum. I say there is some duty resting on Congress to take into consideration the exigencies of human life; to protect human life; from being unnecessarily sacrificed

Mr. O'NEILL. In view of what you have said about the long existence of pilotage laws in the States, if you take into account the fact that within a comparatively short time the Congress of the United States has appropriated large sums of money to improve our rivers, harbors, and bays, and the approaches to commercial cities, do you not think that that fact ought to have some bearing or effect against the requirements of a law that obliges the owner of a vessel to take a pilot, the risk having been lessened so much by the general establishment of light-houses and the other means for insuring safety?

Mr. BECKWITH. I ran ashore once on a steamer off Kimberly light when the captain was certain that he was at the west end of Delphine Island, near Mobile. Light-houses, unless you are very familiar with them, are of little use. It depends on the locality. Some arguments are very specious until they are examined. So far as buoys are concerned, anybody who has had any experience knows, or can ascertain by going to the Coast Survey, that there is no certainty that buoys will be in the same place to-morrow that they are in to-day. There is no certainty that they will be stationary. After a heavy wind no one can be safe in relying upon buoys.

Something has been said here by gentlemen who say they have gone

into New Orleans. I know it to be the fact that of the 50 pilots of New Orleans there is a detail of seven or eight daily engaged in sounding these two channels—this bifurcated channel at the mouth of the Mississippi—getting the exact depth of water, the rate of the current, and especially the depth of water on this knob I have spoken of. Upon these soundings taken by themselves they are guided in the performance of their duties as pilots. I do not know a man belonging to these tug-boats who could take soundings, because those tug-men are not necessarily sailors at all. I know how they get along there. If it happens that there are two or three tug-boats at the jetties, and a heavy steamer comes in, drawing 23 or 24 feet of water, you will see one of their most useless boats running immediately behind, and they get the shoal ranges in the difficult places, and it is upon that information, and reaping the reward of other people's labors, that they are able to get through.

Mr. FINDLAY. What is the amount of capital invested in what you might call the pilot plant of the country?

Mr. BECKWITH. There is one steam pilot-boat that cost $46,000.

Mr. FINDLAY. I do not mean in New Orleans, but throughout the whole country.

Mr. BECKWITH. I could not tell you. Any estimate I should make would be only a wild guess.

Mr. FINDLAY. Give us a rough estimate.

Mr. BECKWITH. Well, it must be among the millions, because pilot-boats, built as strongly and equipped so well as they have to be, must be expensive.

Mr. FINDLAY. What would be the effect of this bill upon that capital?

Mr. BECKWITH. It would have to go out of existence, or pass into other use; and a pilot-boat is hardly fitted for any other use. Under the new plan a man will get a commission, and will get it easily, and follow pilotage for ten days if it suits him, and them be gone. Now, the pilots on the bar at New Orleans have a plant representing $100,000, consisting of three pilot-boats, and coal yards, and necessary local equipment. How long do you suppose you could find a set of men in any of the Gulf States—men having the competency and character of those who deal with this river navigation—that would put $50 into any investment with any view to permanency, if they were to be overrun? There has got to be capital in the business.

Mr. O'NEILL. We are trying to get all the facts we can in this matter. Would you say the capital invested by the pilots was one or two millions—or not much more?

Mr. BECKWITH. This a rough estimate I do not know how much it is.

Mr. O'NEILL. Of course, we understand that. How many millions are invested in ships whose owners are ready to take their vessels into ports without pilots? That is the question that occurs to the mind as bearing on the other side.

Mr. FINDLAY. The object of my question was to bring out the fact that it was hardly fair to destroy property without compensation. I understand that these pilot-boats cannot be used in any other way. It would be hardly fair, it seems to me, to destroy property without giving compensation for it. When we took off the stage line in Baltimore, and put on the street railroad lines, we paid the proprietors of the omnibuses.

Mr. LONG. But property would not be destroyed by this bill, and pilotage would not be abolished. The fees remaining to be collected at the single port of Baltimore would be at least $30,000 or $40,000.

WASHINGTON, D. C., *February* 14, 1884.

STATEMENT OF DANIEL S. EMERY.

I have listened with attention and interest to the remarks made before the committee. I am not much of a speech-making man, but I want to say a few words on this subject of compulsory pilotage. I am quite largely interested in vessels, not to so great an extent in dollars as some of my friends here, but in about $40,000 or $50,000 of shipping going to all parts of the world.

This tax called pilotage is one of the hardest burdens that we have to contend with. Sailing vessels are driven almost to the wall. Steamers have superseded them in almost all branches. A few years ago there were 50 to 60 vessels in Boston engaged in the Mediterranean fruit trade. Last year only two sailing vessels came to Boston in that trade; steamers do all the business. At this time I have in Boston six or eight vessels that have been in the West India trade in winter and have been doing a little coasting trade in summer, but we cannot get business for them. A few weeks ago the barkentine Arlington came to Boston with a cargo of salt, the smallest cargo for many years. She put into Vineyard Haven and took a pilot and paid him $40, and the captain did his work while the pilot was down sick in his berth. When he got near Boston, he was spoken to by a Boston pilot, and had to pay him. A captain takes on a pilot at Vineyard Haven to take him to Boston if no Boston pilot speaks him, and when he gets to Boston he is obliged to take the other man, or pay. He pays him $50 or more. There is an expense of $100 to 120 to get a vessel around from Vineyard Haven to Boston.

Mr. LONG. All but about $50 of it you pay voluntarily.

Mr. EMERY. Well, I suppose you might call it "voluntarily," in a certain sense, but we have to pay it.

Gentlemen have spoken here of the dangers of the pilot's business. I do not agree with them. I have been to sea, myself, and I think I know something. Our captains have to encounter much greater dangers; they have to run the risks of ice one season and of the tropics next season. We have had vessels in which the captain would be at sea 20 days with only a boy and a dog on deck with him, all the hands being down below, sick in their berths, and, perhaps, when coming back would be robbed of all he had made in a month by being obliged to pay for a pilot that he does not need.

As to the safety which is secured by the employment of pilots, we have had vessels run ashore with them. On one occasion it cost us $500 to get out of a scrape that a pilot got us into, and all that he suffered was a reprimand. We had no remedy against him, whereas if we had a tug-boat, and it ran our vessel ashore, we would have had our remedy. In Boston we have had four vessels run ashore by them without remedy to us. In Boston, any vessel coming from a foreign port, of over 200 tons, is obliged to pay pilotage whether they take a pilot or not. There is an old vessel there, manned by old decrepit pilots, that goes out in pleasant weather and lies by to speak Nova Scotia vessels. Of 315 vessels spoken in one year, recently, 65 took pilots, all the rest paid the fee and came in without pilots. One vessel I know has paid $1,500 for pilot fees and has never had a pilot on its deck, and does not want one, but on the contrary has always refused to have any. I was in the British consul's office a few weeks ago, and met a lot of captains there. I said to one of them, "I see that quite a fleet has come in to-

can do to keep looking after our vessels and keep them employed. o not have the time to devote to matters before the legislature. the minute the legislature is in session one or two pilots are there, hen necessary organize a gang of their men, who can do a great nore before the legislature than the ship-owners can, scattered as are.

gentleman here has undertaken to tell you of the difficulty that l be experienced in regard to the insurance of vessels if the cap- undertook to be pilots, or if they were not obliged to employ pilots. been a director in insurance companies for 12 or 15 years, and stockholder in companies now, and I know the companies will tell hey have lost more shipping in Boston Bay with pilots on board vithout. More steamers have been run ashore in broad daylight at other times.

O'NEILL. Do you know whether that is so in New York?

EMERY. I do not know. I have a petition on the subject of pilot- hat I will leave with the committee, a petition of ship-owners of achusetts, to have the rates reduced. Since I left home the Bos- arine Society, which has a sort of regulation of this business, has d a resolution requesting the legislature to amend the laws on the ct. But we cannot get relief at home, and so we come here as citizens, seeking the relief which we cannot get at home.

journed.

WASHINGTON, D. C., *February* 14, 1884.

committee met at 8 p. m.

IH M. PHILLIPS examined.

By Mr. RICHARDSON:

estion. You are a master mariner?—Answer. Yes.

Of thirty years' standing?—A. Yes.

And have had experience all along the coast, from Maine down, ll as to the West Indies?—A. Yes.

their course before they start; they are not so helpless as these pilot-boats; when they get ready they can come back again. They know where they are all the time; do not have to deviate from their course. If a vessel is 30 miles out they know that they will have her in port in four or four and a half hours, because they can come right straight in. They can come alongside a vessel, if the weather is foggy, and feel their way in. When they hear the whistle of the light-house they can go as slow as they choose, and if they find themselves in danger they can back off. If a vessel is 30 miles out and takes a pilot-boat, it may take her two days to get in, and if a strong gale of wind rises in the mean time, it may take her longer; in fact, a vessel could get lost in that time.

A gentleman from New Orleans spoke about boarding vessels from a pilot-boat. Now, suppose a tug-boat finds a vessel; she can get to windward of the vessel, and if she has a hawser 120 feet long she can throw it to her, no matter how rough it is. When there is a good hawser there is no trouble about it. I have boarded a steamer from a tug in the night-time when both were going at the rate of ten miles an hour, put a ladder up the vessel's side, and got aboard without difficulty. That shows what can be done with a tug. The safety and certainty of the work are greatly on the side of the tug as compared with the pilot-boat. If a vessel should happen to strike, when in tow of a tug, there is steam at hand to get her off again. Then, if we want to make quick trips we tow out 15 or 20 miles; and time makes a difference to us, as freights become cheaper. Ten or eleven years ago we used to get $4.40 a ton for freights from Baltimore to Boston that we can only get $1.40 for now. Large barges are being built now to carry freights to be towed by steam power.

By Mr. HUNT:

Q. That is owing to the competition fostered by making the coastwise trade exclusively American, is it not?—A. Well, there is a good deal of competition; steamers have come largely into use, and barges have come and are coming more into use; for instance, for the carrying of coal. There are 14 or 15 steamers now carrying this soft coal, and starving the sailing vessels out.

By Mr. RICHARDSON:

Q. If you were in a strange place and wanted assistance to get in, what would you take, a pilot or a tug?—A. I should take a tug. For illustration, last March I had a telegram from my vessel on Nantucket Shoals, that she had had a collision. In half an hour I was on board a tug and going out of Boston Harbor.

By Mr. HUNT:

Q. You had a skilled pilot on the tug?—A. Yes; and with a tug we can go anywhere.

Q. But if the tug did not have a pilot?—A. Then we would not dare to trust them, of course; but none of them are without a pilot. They are obliged to have a pilot.

Mr. RICHARDSON. They are obliged by law to have a pilot.

The WITNESS. Yes; and I am a pilot myself.

Mr. RICHARDSON. Every vessel propelled by steam is required by law to have a pilot; and steam-tugs, it has been well decided, come within the provisions of the statute.

By Mr. LONG:

Q. Would not one result of doing away with compulsory pilotage be

that some of the pilots would take out licenses on board these tugs—would they not take out licenses from the United States?—A. Yes.

By Mr. RICHARDSON:

Q. Let me ask whether the fact that such a law was passed would not encourage or promote the increase of tug-boats in places where there are not now a sufficient number of them?—A. It would; yes.

Q. Are there any ports in the United States that you know of where there are not tug-boats always ready to take vessels in and out?—A. Well, I had a vessel a short time ago in Charleston——

Q. [Interposing.] Without going into details or specific cases, I mean?—A. I was going to say that Charleston, S. C., and Brunswick, Ga., were two places where there didn't use to be tugs, but they are there now.

By Mr. LONG:

Q. Do you know anything about the Mississippi River?—A. I have been up there, but not since the jetties were built.

By Mr. HUNT:

Q. They have a big boat at New Orleans, owned by the pilots, have they not?—A. I believe so.

By Mr. RICHARDSON:

Q. Are there not tug-boats in all the chief ports of the United States?—A. Oh, yes; they have them everywhere now, and they are needed everywhere. Tugs have pilots that we think are better than those licensed by the State. They are a better class of men, and more sober.

By Mr. LONG:

Q. Mr. Beckwith suggested that if this law were passed, a class of men inferior to those now licensed by the State would become pilots. What do you think about that?—A. I do not think that that would be so. In the first place, the owners of the boat have a large property in charge of those men. They make them go to the local inspectors to get their certificates, and if they were not good they would not be trusted. If a man is going to intrust another with $5,000 worth of property he will want to know who the party is that he has intrusted it to.

By Mr. CHASE:

Q. Are not tug-boats responsible for damage done to property in their charge?—A. Yes.

Q. Are pilots responsible for anything of that kind?—A. Yes, they are; but I have never heard of a case where their responsibility was worth anything to anybody. I have never heard of anybody getting a dollar out of them.

Q. And is not that one of the reasons why we are so particular as to the qualifications of masters—the liability for the injury they may do when they have vessels in tow?—A. Yes.

By Mr. LORE:

Q. Do you mean to say that a pilot who is not skillful, and, by reason of his want of skill, loses your vessel, is not responsible to you for the loss?—A. But they have no means back of them; we would not think of suing them.

Mr. CHASE. But I mean to say that, as matter of law, they are not legally responsible. There has never been a case decided in the State

of New York where there was a dollar recovered from a pilot. They suffer a penalty, that is all.

Mr. RICHARDSON. They are liable in Massachusetts.

Mr. LONG. Oh, they must be liable.

Mr. RICHARDSON. In Massachusetts they give a bond in $1,000 to the treasurer of the commonwealth, for the faithful performance of their duties.

Mr. HUNT. How does the law of Massachusetts regard vessels in case of injury—which is responsible, the one that tows, or the one that is towed?

Mr. RICHARDSON. That has been decided both ways. Judge Lowell says he finds the tug responsible if there is a tug within a mile.

Mr. HUNT. That is a very difficult matter, and one upon which the decisions are not united.

Mr. RICHARDSON. Yes; but it stands to reason that if the vessel is controlled exclusively by a tug, she has to follow along, and, if a collision ensues, the tug towing the vessel must be responsible; because a tug can, as we all know, draw a vessel one way or another. A vessel towed is within the complete control of the towing vessel. I think quite often, now, in cases of storm, they lash right onto the side of the vessel.

The WITNESS. In that case the party injured holds the vessel, but the vessel-owners come on to the tug afterwards. The injured party attaches the vessel, the vessel pays, and then she falls back on the tug.

Mr. RICHARDSON. The liability of the pilot is $1,000 in Massachusetts.

Mr. CHASE. If a steamer in charge of a pilot should do damage to another vessel, the steamer on which the pilot was would have to respond to the party to whom the damage was done, and the steamer has no redress against the pilot.

Mr. HUNT. You are talking a little wide of the mark, now. Let us put it squarely on the plane of the law. The steamer that does the tort is responsible in an action sounding in tort—*in rem*—to the steamer that it collides with; but the pilot that does the harm is answerable in an action, over again, proceeding from the steamer which impleads him, is he not?

Mr. CHASE. They never have——

Mr. HUNT [interposing]. But I mean that the action would lie, would it not?

Mr. CHASE. I don't think any action ever was brought.

Mr. HUNT. But would not the action lie?

Mr. CHASE I am not sufficiently versed in the law to say.

Mr. HUNT. Would it not, Mr. Richardson?

Mr. RICHARDSON. I have no doubt it would.

Mr. LONG. But, setting aside that question; your pilot owns his pilot-boat, or a share in it, and, so, is responsible. In the case of one of the tugs; there may be no fund from which to obtain damages, even if you got a judgment.

Mr. RICHARDSON. Even if she is mortgaged?

Mr. LONG. Even if she is mortgaged.

Mr. RICHARDSON. Only to the extent of the tug, I admit; but the best possible claim you can have *in rem* on a vessel is a collision. It cuts through a mortgage, and even through sailors' wages, and is the only claim that does.

Mr. LONG. But in one case the satisfaction is the tug-boat, and in the other case the pilot-boat?

Mr. RICHARDSON. No; the pilot-boat is not responsible, because the boat is not the instrument.

Mr. LONG. But the owner of the boat, the pilot himself, is responsible.

Mr. RICHARDSON. I do not know how it is in New York, but there are no pilots in Boston who own their boats except two. The other pilots do not own anything.

Mr. HUNT. I think that in the Mississippi they own a big vessel, and Mr. Lore says that he thinks they also own one in the Delaware. So the steam vessel is the pilot-boat.

Mr. RICHARDSON. But the pilot-boat would not be responsible *in rem*, with the pilot standing on the deck of another vessel, because his vessel is not attached to the other. The tug, however, draws the vessel into danger.

Mr. HUNT. It is the one furnishing the motive power?

Mr. RICHARDSON. Yes.

Mr. HUNT. But we are talking of the case of a pilot vessel which has steam power, and so does furnish the motive power.

Mr. RICHARDSON. There the principle of the tug comes in.

Mr. HUNT. I suppose this is the way they do often; that the big boat goes and puts her pilot on board the vessel to be piloted, and then leaves him.

Mr. RICHARDSON. I suppose so. There are only six pilot-boats in Boston, and by regulations there are six pilots attached to each boat. A boat goes around with a complement of pilots and cruises around the harbor, and puts off a pilot here and there until the six are all out. Then she comes back into port, and by the time she gets in, very likely the six pilots are in also, and she picks them up again, and out she goes.

Mr. HUNT. I think one of the features of this discussion is the differences presented by different parts of the country.

Mr. RICHARDSON. Undoubtedly.

Mr HUNT. The pilot-boats that were such when you and I were boys are not altogether the pilot-boats of to-day. Those are getting to be relics of the old times.

The WITNESS. That is very largely so.

Mr. MILLER. That is mostly so. Still, they are not using steam much. There is not a single steam pilot-boat in New York.

Mr. RICHARDSON. There is no steam pilot-boat in Boston.

Mr. HUNT. Did not Mr. Beckwith say there was one in the Mississippi that cost the pilots $40,000?

Mr. RICHARDSON. I think he said something about their having a boat of the kind.

By Mr. HUNT:

Q. You go in and out of New Orleans a good deal, I suppose?—A. No, I do not.

Q. I was going to ask you whether the pilots did not often get on at New Orleans like any other passenger and go out?—A. I could not tell you about that.

Mr. HUNT. That is the way I think they do there. I do not know how they do in other places. There are different customs in different places, growing out of differences in the character of the coast, and the necessities of navigation, I presume.

The WITNESS. On the 8th of this month a little vessel from Inagua came inside the capes of Chesapeake. The pilotage from there to Baltimore, 160 miles, was $30. She didn't pay it; she got by without paying.

I suppose she was so small they let her go; they were probably looking for something larger, as they often are. She went into Fortress Monroe for orders. She anchored on a line with the "Thimbles," and lay there 24 hours. A pilot came along and hailed the captain, who was standing on deck. This pilot came up and asked the captain where he was from and where he was bound for. The captain said he was bound for either New York, Baltimore, or Norfolk, he didn't know which. The pilot said if he went either to Baltimore or New York, he should charge him $30 for the Virginia pilotage on top of the other. He was ordered to Baltimore, consequently he had to pay $30; he gave a sight-draft for the money right there. I have the draft in my pocket now. It was paid. That little vessel was of only 117 tons burden, which paying two pilotage rates would make $60 pilotage altogether.

By Mr. DINGLEY:

Q. You say he did not actually use the pilot at all?—A. No.

By Mr. LORE:

Q. He actually paid $30, but was liable to pay $60?—A. Yes; $30 to the Maryland pilots and $30 to the Virginia pilots, because he went in four miles. In stress of weather he might have had to put in to get a harbor, and he would have had to pay that $30. He didn't want a pilot, of course. It was a little vessel, and the captain knew his way up there quite well. I have been in there and paid the pilotage, but did not want the pilot. I am a pilot myself, and understand the coast very well. Freights are so low now that everything has to be saved.

By Mr. RICHARDSON:

Q. How general is that—that masters of vessels, notwithstanding that they have to pay the fees, simply pay them and keep possession of their vessels themselves?—A. Fully one-half of them do that.

By Mr. O'NEILE:

Q. Since you have to pay for them, why do you not use them?—A. Because the captains do not want them around; they are in the way; and the captains don't feel very good toward them.

By Mr. HUNT:

Q. On what coast is that?—A. Our coast here—Chesapeake Bay and Potomac River; also Sandy Hook and Boston Harbor, or wherever we are acquainted, and we are acquainted almost everywhere; masters of vessels know their way into almost every port. Charts nowadays are so good that a man who understands himself can take them and pilot his ship out even in the night-time; I have done it.

By Mr. LONG:

Q. Did you not run some risk?—A. No, sir; because I could study my chart. A man that is used to it can do it.

By Mr. RICHARDSON:

Q. Let me inquire whether or not there has been a great improvement in maps and charts within the last ten or fifteen years?—A. Yes. Charts used to be small; now they are large, and every shoal is marked so plainly that we know everything about it. I consult my charts now, though I have been sailing a great many years.

By Mr. HUNT:

Q. Did you ever sail iron ships?—A. No, sir.

Q. Do you know whether it is not some time before they can get a compass to act on an iron ship?—A. I believe they act all right now.

Q. I mean when the vessels are first built—that the best of masters might lose his way?—A. Yes; sometimes that is so. But they ought to keep a sharp lookout. In the case of the Columbus, if there had been a sharp lookout kept they would have been all right.

By Mr. RICHARDSON:

Q. Is there any reason why the master of a tug-boat cannot get the same knowledge that a pilot-boat captain could?—A. They can get more.

Q. Why?—A. Because they are in and out more. If you have a tug-boat, you can go just as close to the shore as you have a mind to.

Q. State whether or not in the management and sailing of sailing vessels a tug-boat is now indispensable.—A. She is.

Q. And, having a tug, is a State pilot needed?—A. Not at all. We have United States pilots who are better, in my opinion.

Q. But I am now speaking of State pilots. You cannot have a tug-boat, of course, without having a pilot?—A. No.

Q. Having a tug-boat with its pilot (and you cannot have a tug without one), have you any need of any other pilot?—A. Not at all.

Q. You are an owner of a vessel, besides being a master of a vessel?—A. Yes—ten, twelve, or thirteen.

By Mr. HUNT:

Q. What proportion of the carrying trade, coastwise, is done by sailing vessels now, as compared with steamers?—A. You mean of coal, &c.?

Q. The general coastwise carrying trade—what is the proportion?—A. Two-thirds, I should say, is carried by sailing vessels, and one-third by steamers.

Q. Which is gaining?—A. The steamers are gaining.

Q. Very rapidly?—A. Well, quite rapidly.

Q. They bid fair to have it all in the end?—A. Yes.

By Mr. LONG:

Q. You are carrying your coal up the Taunton River in freight barges now, are you not?—A. Yes.

Q. You put three or four of them together and drag them up by a tow-boat?—A. Yes.

Q. And they take the place of sailing vessels?—A. Yes.

By Mr. RICHARDSON:

Q. You have sailed in ports where there is no compulsory pilotage?—A. Yes.

Q. Have you ever been in Maine ports?—A. Yes.

Q. Is there any want of good pilots there when you get there?—A. No; there are tiptop pilots there; and they are out early. If they know you are coming up they are out very early, one trying to get ahead of the other. Competition is what makes them active.

By Mr. LORE:

Q. How are they paid; by uniform rates, or according to your contract with them?—A. Just what we can contract with them for.

By Mr. RICHARDSON:

Q. In ports like Boston, and where there are tug-boats, are they cruising around looking out for jobs?—A. Yes; always.

Q. In unpleasant weather, which do you find in positions to aid you when you are trying to get into a harbor, a pilot or a tug-boat, according to your experience?—A. A. tug-boat.

Q. Which can best go to your assistance in a storm?—A. A tug-boat. I have towed from Boston to Portland in the winter.

Q. Are tug-boats capable, sea-going vessels?—A. In every respect; yes.

Q. Do you know the Boston Storm King?—A. Yes.

Q. Is she capable of crossing the Atlantic?—A. Yes.

Q. The Hercules is another?—A. Yes; if they can carry coal enough.

Q. They do tow vessels from Boston to New York. You will find tug-boats out 60 to 70 miles looking for ships.

By Mr. LONG:

Q. Did you have a pilot on board the night you took us down to Yorktown on the occasion of the celebration there?—A. No; that was a bad night. If a pilot had offered me $1,000 that night I would not have let him handle my boat.

By Mr. RICHARDSON:

Q. Why?—A. Because I am a better pilot than any of them. Ask any of the Potomac pilots and they will tell you that I am the best pilot on the river.

By Mr. EMERY:

Q. How many passengers have you carried on your steamer?—A. About 70,000.

Q. How many trips have you made into Boston?—A. About ninety a year.

Q. Is there any steamer in the United States that carries more?—A. No.

By Mr. RICHARDSON:

Q. You have always carried them safely, have you not?—A. Always.

WASHINGTON, D. C., *February* 14, 1884.

DANIEL BARNES examined.

By Mr. RICHARDSON:

Question. You reside in New York?—Answer. Yes, sir.

Q. What is your firm?—A. P. R. Buck & Co.

Q. Are you a ship-owner?—A. Yes.

Q. Have you given some examination to this subject under consideration here?—A. Yes; the firm to which I belong have had to do with American sailing vessels for about half a century. I have been connected with it for over 30 years myself; and I would say to you gentlemen that from my experience I have no fear that if pilotage is made non-compulsory our coasts will be strewn with wrecks or that the pilotage system will be destroyed; that is, that there will be no pilots when wanted.

A few years ago a vessel from Peru, with a cargo of nitrate, got as far as Fire Island, and a pilot offered his services, which were declined by the captain because he was not on pilot-ground and he would be obliged to pay an off-shore pilotage, as they call it. But, as the vessel drew considerable water and she was a good vessel to pilot in, the pilot

said he would take him on the same terms as if he were farther in. He took charge of the vessel. It was clear weather but boisterous. The captain had been up several nights and was glad to get a little rest. He went down below; and at dinner time he went up again to invite the pilot down to dinner. He noticed that the vessel was close in shore, and he said to him, "Do you know how fast this vessel is going?" The pilot said, "I suppose 7 or 8 knots." "Why," said the captain, "she is going 11 knots." Before they got through with the conversation the vessel was ashore and was a total loss. If the captain had been piloting that vessel she would not have been lost, in all probability, because he would have felt his way.

A few years ago a vessel that we were agents for, of 1,500 tons burden, was bound to Japan, and the pilot was given his choice of time to go down to the bar in the day. He started and crossed the bar about noon. But before that she struck on her rudder four times. The voyage to Japan was a voyage of about four months; and of course the captain was very uneasy all that time until he had an opportunity to see the bottom of the ship. It turned out that no damage had been done, but there might have been serious damage.

I do not mean to say this disparagingly of the pilots. They probably deserve the encomiums which have been so often passed upon them, of being the best pilots in the world, these Sandy Hook pilots; but they are not infallible, and they do make mistakes sometimes.

I want you to bear in mind, gentlemen, that there are hundreds of vessels that are exempt from this compulsory pilotage that go in and out of the harbor of New York, and they go in and out equally safe; and of all the wrecks that I know of that have happened in our waters all have been in charge of pilots at the time of the wreck. Of course there may have been others that did not come to my knowledge. But several that I do know of met with accidents when in charge of pilots.

The ship Jabez Howe went ashore a few days ago down at Sandy Hook while in charge of a pilot. But New York is a large port, and all kinds of captains come there, and there will always be employment for pilots. I do not believe that they will suffer in any way. There will be a little sharper competition among them, perhaps, but I think that many of our captains who now, on principle, do not want to take a pilot if they can help it, will be glad to take them if they are not compelled to.

This ship that I spoke of as having made the voyage to Japan, came back by way of Puget Sound, thence to San Francisco, thence to Liverpool, and from Liverpool to New York, and in all that voyage the only accident that happened to her was while she was in charge of a Sandy Hook pilot.

There is a line of American steamers known as the James E. Ward & Co.'s steamers. We take some interest in them because they are American steamers, and American steamers are scarce. They go to Havana, and although they are obliged to and do take pilots, yet on two or three steamers I understand that Ward & Co. prefer to pay the pilot to stay ashore and have the boats piloted by their own officers

The vessel I have spoken of arrived here on her return voyage from Liverpool, and for fear of change of weather and that she might be driven to sea, the captain, although taking a pilot, had to supply a tug, and he paid the tug $250 to bring him into port. The steam-tug we consider a necessity. This vessel was one of 1,500 tons.

I think the tendency of the arguments, as far as I have heard them here, would be to create the impression that a captain would shirk a

pilot whenever he could, no matter what the risk might be. Now, the captains of American vessels are not men, generally, of that character. They are men who have charge of large interests. A ship such as I have spoken of would cost $75,000 to build to begin with. She has her freight to earn, and a cargo of freight which will pay a ship for going to the other end of the world is no light affair. The cargo in that case, on her way out, was oil, and so did not amount to so much, but on her return trip the cargo, as from Manilla, or any such port as that, would be worth perhaps $250,000.

Underwriters, for a small premium, perhaps 3 per cent., insure those risks. The Atlantic Insurance Company of New York would take the entire cargo of that vessel at perhaps 3 per cent.—a cargo of sugar from Manilla to New York. These vessels are trusted to go all over the world. If there is a chance of their making any mistake the captains are not men who, for the sake of saving the pilotage, will run any risk. Ship-owners do not employ such men. They would not have men who would jeopardize their property, and it is not to their interest to do so. If such captains are coming into a port that they are not acquainted with, or to which they do not know the way in and out, they will take a pilot. So that the pilots would never be set adrift. There will always be plenty for them to do.

Q. In regard to insurance, let me inquire whether or not, in your experience, any difference has been made in the premium in case your vessel went to a port where pilotage was compulsory?—A. No, sir; the question is never asked; but the underwriters discriminate sometimes as to the parties they are dealing with—to whom they issue their policies. If a responsible firm comes up and wants to insure a ship, the companies will, on the strength of this firm's choice of a master, insure the ship readily; but if they think that it is a concern that would just as lief put a captain on board who would run ashore anywhere, the company would be perhaps a little careful how they took the risk.

By Mr. HUNT:

Q. What would be the fees of compulsory pilotage on such a cargo as one of $200,000 worth of sugar from Manilla?—A. I think the pilotage is about $140 or $150 to $200. There is another point about that. I can conceive of cases where a vessel may be outside in a storm; and if a pilot-boat happens to come along and the pilot could be transferred, the captain would be very glad to have him. No doubt there are many cases of that kind. But when it comes to outward pilotage, I am inclined to think they never want a pilot unless the ship is one of very deep draught. If it is a ship that draws as much water as they ever find in the bar, then they want to get the best information that can be had. But a vessel outward bound is in safety. Until the weather clears up she remains in port; and when it is suitable for her to leave she goes to sea.

I do not know that I can give you any further information; but perhaps I might say a word about our pilot-boats in New York. I believe one of them is 42 years old. They are little vessels of about 50 tons. Whatever may be the law in regard to the responsibility of pilots, I am of opinion that a pilot is not pecuniarily responsible for his acts. He is responsible to the board of pilot commissioners, who will try a case whenever a charge is brought against him; and he will be dismissed, perhaps, or his license taken away from him, or he will be suspended, or something of that kind. But as to pecuniary responsibility I do not think any such exists. I never heard of any.

Mr. RICHARDSON. He may have such responsibility as a lawyer has—that if he acts in good faith, that is all there is of it.

By Mr. RICHARDSON:

Q. I wish to inquire whether, in your judgment, with all the improvement in things nowadays, there is any need of a State pilot?—A. No, sir; there are very many cases in which he is not needed; and, if he is needed, my opinion is that he will be employed.

Q. State whether or not, with sailing vessels, a tug-boat has become almost indispensable, in order to get in and out with expedition?—A. Yes, sir; the pilot will not take your vessel to sea unless you have a tug-boat, and therefore, if you take a tug-boat, all the pilot has to do is to stand and look on, and collect his fee.

Q. The tug-boat being taken, is the other pilot then of any use whatever?—A. No; he is of no use. In many cases I think he is a detriment. I know of one case in particular where the pilot was on the deck of a vessel when she was being towed out of New York. The tug went ahead and the line was so long that there was some confusion; and one pilot said he said one thing, and the other said he said another, but between them they hung the vessel up on a spile, and we had to discharge the cargo of oil and repair the damage before the vessel could go to sea.

By Mr. LONG:

Q. Too many cooks spoiled the broth?—A. Exactly. I think it is better to have either one or the other alone; and the tug seems to be a necessity. Even the pilots will not take a vessel to sea without a tug—not from the wharf, at least. When a vessel of heavy draught wants to get to sea, she wants to be pretty sure of the tide when she reaches the Sandy Hook bar; but to do that she must have something that will carry her there in time for it. The usual course is to employ a tug-boat, the cost of which is, I think, about $50 or $60 for such a vessel as I speak of, to tow her out to sea, whereas we pay the pilot $140, and we do not consider him of any use at all, unless his knowledge is superior to that of the man on board the steamboat, and they communicate freely and properly with one another, and, between them, get the vessel out safely.

Q. Does not the fact that captains are obliged to employ pilots result in a constant feeling of enmity and friction between the captains and the pilots?—A. Yes; it does.

Q. And what is the effect of that feeling?—A. The effect of that is that a captain will run away from a pilot whenever he can, under the present system. But if they could meet on equal terms and the captain could say, "Instead of paying a tow-boat I will pay you so much," and they could come to terms, perhaps he would take a pilot out without a tug-boat, if the wind were fair. As it is, whenever he can take a tug-boat at the same price he takes it; but as matter of fact the tug costs only about one-half the pilotage in fair weather. In the case of the vessel I have spoken of the tug-boat cost $250; but there was a storm approaching, and if the captain let that boat go, perhaps he might not find another; but for towing a vessel out, he can get a tug for $60 to take him to sea, and that is all he wants.

By Mr. RICHARDSON:

Q. Please tell the committee what the extent of this burden of compulsory pilotage is; what percentage of the net earnings of an ordinary sailing vessel between New York and Havana goes for pilotage,

if you paid it at both ends.—A. That would be pretty hard to estimate, because some years we make something out of vessels, and other years we do not. Some years we hardly make the master's wages. At the present time freights to Cuba are about $2.50 or $3 a hogshead. A sailing vessel can hardly go out and back and pay her way, so that the percentage of pilots' wages on the result of a year's work would be hard to tell. Sometimes he would get 100 per cent., nearly.

Q. State whether or not competition between sailing vessels and steamers is now so high that you do not even get insurance on your vessels. —A. We do not get insurance on our vessels.

Q. Why?—A. We can't afford it. If the best ship that floats, and the best captain that we can find anywhere, can make 20 per cent. on her first cost she is doing first rate, and we are willing to build that kind of a ship every year.

By Mr. LONG:

Q. What do you mean by 20 per cent.?—A. If she cost $100,000 to build, as a vessel of 2,000 tons would, then after paying running expenses —what would be deducted for the expense of running her—and figuring up the depreciation of the vessel which takes place every year as she grows older——

By Mr. RICHARDSON:

Q. How much is that depreciation; six per cent.?—A. Yes; I should think so. We consider that a vessel in good order, when she is ten years old, is worth about half what she would be when new. That would be 5 per cent. I should think 5 or 6 per cent. would be a fair calculation.

As to insurance, the Atlantic Mutual Insurance Company of New York charges for the best ship that floats 12 per cent. They have for the last several years returned 40 per cent. of scrip, and that deducted from 12 per cent. leaves 7.80—nearly 8 per cent. In that policy we are restricted to certain trades. We warrant the ship not to carry over her registered tonnage of coal, and warrant her not to carry grain in bulk, &c. Almost every ship coming from San Francisco with wheat puts in coal, or if she puts in ballast she comes to New York for trade.

By Mr. LONG:

Q. You make a point to insure them?—A. No, sir; we do not. But we do not like to have too many eggs in one basket, so that these vessels are owned in shares, and if we have an interest of $5,000 we do not insure it.

By Mr. RICHARDSON:

Q. Perhaps you have not made it clear how you reach that 20 per cent.?—A. Well, we will say 5 per cent. for depreciation, and 7 per cent. for insurance, because in Boston you can get it for that. That would make 12 per cent. Then in New York the legal rate of interest on money is 6 per cent., which makes 18 per cent. out of 20. I will venture to say that within the last two or three years there are very few vessels that have paid 15 per cent. towards that; and you can see that we can't afford to insure. If a vessel goes safe we make that. If she does not we lose it.

By Mr. HUNT:

Q. Is the proportion of steam vessels going to increase very rapidly and the sailing vessels practically disappear?—A. That seems to be the tendency, sir; and I am sorry for it, because I have no interest in steam.

Q. How many years do you think it will be before the sailing vessel practically gives way to the steamer?—A. Well, if they cut the Isthmus of Darien in two I do not think that they will have much use for sailing vessels. They are used for long voyages, because steamers have to take in coal, and on long stretches that coal would take the place of cargo, so that they could not afford to take it. But in every place where they can get a supply of coal they are now cutting into us rapidly. For instance, a few years ago a man out in one of the West India islands—Antigua or Martinique, or any of those places—would have to get a vessel to go out there of 1,000 or 1,200 tons to take out a cargo, and he would be obliged to order a cargo. Now there are steamers stopping at all those places, and if you wanted to send out a barrel or ten barrels you could send them.

Q. Steamers are more profitable, too, are they not?—A. Well, I don't think they are making any money; but there are a great many of them afloat, and they have to keep them going.

By Mr. LONG:

Q. Are we not increasing in the number of sailing vessels we build?—A. We build more than we used to, and of larger tonnage. I have not got the figures with me, but I don't think the tonnage of the United States is any larger under our own flag than it was ten years ago.

By Mr. DINGLEY:

Q. There has been a slight increase in the past year in the registered tonnage, has there not?—A. Yes; but to balance that the tendency this year is downward. Nobody wants to build a ship; and I think all the yards that were busy last year are now without employment.

By Mr. LONG:

Q. Do you build ships?—A. We have them built for us sometimes. We are not builders, but owners and merchants and agents of vessels.

Q. Would you like to buy your ships abroad and have them registered under the American flag?—A. No, sir; I have no ambition to do that. If we cannot afford to own a vessel built at home, I think we should go out of the trade. We have never owned a vessel under the British flag, except in one case, in which a party in Maine owed us $40,000 or $50,000, and a vessel which was worth, perhaps, $15,000 or $16,000, was the only property we could get hold of that belonged to him, and we seized that, and sold it for just as much as we could get.

By Mr. HUNT:

Q. What is the difference in cost of building now in Great Britain compared with the United States?—A. Well, there is some difference.

Q. But not a great deal, I suppose?—A. At the present time American vessels are so much at a discount here that you can buy interests in ships at about half price. An interest which I valued on my books, in bringing it forward on the first of January, at the rate of $56,000, I was offered at the rate of $32,000.

By Mr. LONG:

Q. Do you refer now to wooden ships?—A. Yes. The party said that he had no use for it; he wanted to go into another business, and that he would sell me a thirty-second for $1,000.

By Mr. LORE:

Q. Could you not get wooden vessels built here cheaper than in a foreign country?—A. Yes; I think we can build wooden vessels as

cheaply as they can anywhere; and if we had the same demand for iron vessels and steamers in this country as they have on the other side, we could build them, too. But nobody wants to try experiments, with the prospect of losing a good deal of money.

By Mr. DINGLEY:

Q. Especially when free ships are threatened?—A. Yes; but since you have mentioned that, I will say that the trouble, in my opinion, is that Americans find better employment for their money in railroads and things of that sort. In Great Britain the territory is so circumscribed that they have got to go off to sea and to countries beyond the sea to make their money. A man having several sons, for instance, might send one to India, another to Australia, and a third to America; and so scatter them all around wherever he could get employment for them. But a man in the United States likes to see his sons get employment here in business or otherwise.

By Mr. LONG:

Q. Or going to Congress?—A. Yes. Well, I don't know how profitable that is. I should not want to express an opinion in this presence.

Mr. LORE. I think some Congressmen would be willing to trade off for a percentage in your shipping.

The WITNESS. Well, if I were to look over the list I think I would be willing to give you some percentage for your salary.

WASHINGTON, D. C., *February* 14, 1884.

STATEMENT OF DANIEL S. EMERY CONTINUED.

The ground seems now to have been pretty well covered by the statements of the gentlemen who have spoken, and there is not much more that I want to say.

I have heard the question raised here as to the responsibility of pilots. If we have a ship in England, and a pilot takes charge of her, the responsibility of that ship for any damage by collision ceases. If we have a pilot on board here, and he runs another ship down, we are liable to the whole value of our ship; she may be taken to pay damages and the pilot is relieved; or, in other words, we get nothing, and we have to pay damages. It is true they are under bonds, but in Massachusetts the bonds are $1,000; and in an experience of thirty years I have never known a pilot to pay one dollar, except in one case, where a man did pay for a jib-boom, $15 or $20. I have had vessels that were run ashore by pilots. I have stated to-day that I had one vessel that ran ashore on the Jersey coast, when I had a Sandy Hook pilot. If the captain had been left in charge of the vessel, I don't think she would have gone ashore. He was approaching the coast outside of Barnegat; a pilot spoke him and the captain asked him if he would have to pay off-shore pilotage, and told him he did not want him unless he would relieve him of that. The pilot said "All right!" and came aboard the schooner and asked the captain how Barnegat bore. The captain gave him the course. The wind was off the land. He hauled the vessel in, and the captain said to him, "I think you are too near." "Well," he said, "I have been a pilot for thirty-three years, and think I am competent to run this vessel." Pretty soon they heard the roar of the waters on shore. The cap-

tain told him that he was coming pretty close—that that roar could be heard 15 miles from shore. But the pilot kept on, and pretty soon they heard the frogs croak. Then the captain insisted on taking charge, and told the man at the wheel to keep the ship off. But it was too late. The damage could not be avoided. I happened to be in New York at the time, and when I heard of the trouble I went down to see things. I found the vessel pretty nearly full of water; and found the pilot on board. I felt of his lead line and found it dry; he had not used it at all. I thought he had better get ashore. We had to jettison the cargo, lighter on, and pump the vessel out. The cargo was badly damaged, and the loss on cargo and repairs was over $5,000. I went to Mr. Jones, the president of the Atlantic Company, and stated the case to him. He sent one of his men to the pilot commissioners with an account of the affair, and the pilot was suspended for six months, but that didn't pay the $5,000 nor my share of it. That was all we got out of it.

By Mr. RICHARDSON:

Q. Captain Phillips stated that masters preferred to pilot their own vessels rather than surrender them to strangers, even though they had to pay fees. How general is that?—A. Well, in case they are obliged to pay the whole fees, I think, as a rule, the majority of men would take the pilot, but if they could get off by paying three-quarters or one-half, they would go without a pilot.

Q. But still pay?—A. Yes. A vessel under 200 tons pays one-half in Boston, and we have had men running there for years and never had a pilot. Still, they are obliged to pay the fees.

Q. And never take them?—A. Never take them.

Q. Take a master that runs in and out of Boston Harbor, say five times a year, is he competent to run in and out as well as any pilot or tug-boat master?—A. He is as fully competent as any pilot. But we can get a tug-boat master that knowns more about it.

Q. Why?—A. Well, the tug-boats run so much outside. There are forty of them in Boston.

Q. Forty public boats?—A. Yes, and of those I think there must be six or eight that are what you call sea-going boats that will go outside and pick up vessels. If a vessel is telegraphed off Cape Cod at daylight, she is reported to the News Room; the tow-boat people are notified. There are signals made out in the harbor which are understood, giving the distance and bearings of the vessel; and the tugs go to the vessels immediately and make a bargain with them and tow them off.

Q. Do vessels lie around the harbor in Boston and New York, waiting to get work on vessels?—A. Yes. The Storm King was around there once, and found a captain who wanted a tow. He made a bargain with him, and when he got to this imaginary line that I explained to you to-day, a pilot came along, and wanted to know if he didn't want a pilot. The captain said, "No; but if I have to pay you, come aboard." So he went aboard, though he was of no more use than a spare pump in a tight ship.

Q. State whether or not, in your opinion, the compulsory pilotage, which allows a pilot to collect a fee, whether the captains want his services or no, is injurious to competition among pilots.—A. It is very much so. I think that if there were no compulsion about it, and the men were obliged to cruise off where they ought to be, the service would be better attended to.

We have another hardship that I ought to mention. We have had vessels towed from Vineyard Haven totally dismasted, and a pilot was

of no earthly use, unless to steer the vessel. When we get on the pilot's ground, the pilot steps aboard, and occasionally sticks his head out of the cabin, and goes below, and tells them to "keep aft of the steamer." We pay him, but he can't do a thing for us.

Q. That was a case where the vessel was dismasted?—A. Yes; not a sail could be set. The vessel had had the mast cut away.

Q. Is it true that you have to pay pilotage dues the same whether you come in or go out with ballast?—A. Yes; if you draw 7 feet of water. I have heard some talk here about tow-boats not being fit to board vessels outside. That is a mistake. We have one boat in Boston that has within a year taken a disabled schooner at Charleston, S. C., and towed it to Boston. There was another case in which a vessel came into Hampton Roads from the coast of Africa dismasted, and they sent the Storm King down to Hampton Roads to tow her to Boston. When they got to the light the pilot came aboard, notwithstanding that they had two pilots and not a sail set.

Q. In your experience is there any want of skillful pilots where there is not compulsory pilotage?—A. Not at all. There are no ports in the world that we go to, with or without compulsion, where the pilotage is so great as in New York and New Orleans.

By Mr. LORE:

Q. Are there any other States than those you have named that have compulsory pilotage?—A. There is a kind of compulsory pilotage in Rhode Island, but not an onerous one. There is none in Maine.

Q. Are not those who go in and out of Maine harbors men who are natives of Maine?—A. Oh, no. We do business for the Knickerbocker Ice Company, and sometimes send several vessels a year there for them.

By Mr. LONG:

Q. Carrying ice from the Kennebec to Philadelphia?—A. Yes; and no vessel has ever failed to get a good pilot there. They even come to Boston and take vessels for $8 or $10 and come back. There is no difficulty about it at all. And that Maine coast is about as bad a coast as there is.

By Mr. RICHARDSON:

Q. Mr. Lore asked you whether men who sailed vessels in and out of Maine were not natives?—A. Oh, no; there are very many from Jersey; and some from Baltimore and New York—more than there are of Maine vessels.

By Mr. LONG:

Q. More who command your vessels, you mean?—A. No; but those who go for ice to Maine. But it is true that they have a large coasting trade there—such as vessels that go from Passamaquoddy to Maine.

By Mr. LORE:

Q. What proportion of them are not familiar with those harbors, and are not from Maine, but from other States?—A. Well, I should say the ice business is 50 per cent. of the coasting trade of Maine in the summer time.

Q. How much of that is carried by vessels that are not Maine vessels?—A. Most of it is carried by Philadelphia, New York, and Long Island Sound vessels. They have got now so that they take 500 tons—small cargoes.

Q. You say vessels usually employ pilots there?—A. If they need them.

Q. Do they need them always?—A. Not always, after they have been there a few times, if they have a good chart and if buoys are properly placed.

Q. Then, that practically would do away with pilots—depending upon charts made by the Government?—A. Well, many do. In the first place, on entering these harbors you have a channel buoy; by the color of that buoy you recognize it, and from that you go to the buoys that have numbers on them, red or black. You could go through them as you would go through these streets.

Q. Do you think that plan entirely safe all the way down the coast? —A. No; not on a shifting bar; there you have to have a pilot.

By Mr. LORE:

Q. If you were to do that, as you have been doing in Maine, would not that deprive you practically of skilled pilots, along the Southern coast, for instance?—A. No; I don't think it would. Wherever there is a demand there will be a supply.

By Mr. HUNT:

Q. Do you not think that a change in the law would operate harshly on a community of men who have grown up as pilots?—A. Well, for the time it might be harsh on them; but take Boston, for example; the pilotage on steam vessels there in 1872 was $7,780; in 1882 it was $50,000.

Q. You have put that before us already very strongly, but I was talking about the case you have mentioned and which other gentlemen have mentioned—cases off the Florida coast, for instance, where there are reefs, and the Texas coast, where there are bars, and the mouth of the Mississippi. Do you not think it would have a harsh operation upon communities of men who have grown up there as pilots, to pass a law which would break up the business?—A. No, sir; I think it would benefit them.

Q. How is that? I would like to know the reason.—A. For the very reason you have given. You say you have steam pilot-boats there.

By Mr. LONG:

Q. And is not the number of men engaged in the piloting business very small?—A. Yes.

Q. How many are there in Boston?—A. Thirty-six.

Q. And how many in New York?—A. I do not know exactly, but I am told about 160.

Q. How many of those in Boston are active men?—A. About sixteen.

Q. About one-half of those men are doing nothing; they are pensioned?—A. Yes; pensioned upon us people who have to pay them out of our own pockets, when we can hardly pay our men to keep our vessels going.

By Mr. DINGLEY:

Q. Have you any idea how many pilots there are in the United States? —A. I should have to make some calculations to find that out.

Q. Are there more than 500?—A. No, sir; I should think not.

Q. Then all this system is kept up for the benefit of 500 men?—A. That is about it.

Mr. LORE. I have a statement from the pilots on the Delaware, in which they say there are about 1,000 men on the coast.

The WITNESS. There is a good deal of ill-feeling between the masters

of vessels nowadays and the pilots, because they have to employ them. When a man says to you, "You must pay me this whether I earn it or not," you are very apt to revolt against it.

Q. I was only asking whether hardship would result?—A. Perhaps some hardship might result; but, on the other hand, we have been encroached upon by the steamers. One Boston firm—Elisha Atkins & Co.—had six vessels in the Cuba trade a few years ago, and chartered a good many other vessels. This year they have one vessel, but they charter 3 English steamers for that trade, which take the place of vessels which they ran there. They have sold out all but one of the vessels.

Q. After a while there will be no sailing vessels, perhaps?—A. I think there will always be some for coarse cargoes, like ice and coal, and for long voyages. We have a vessel at Hong-Kong, and if she gets a good freight at San Francisco, it does not amount to anything after all, for when she gets to Hong-Kong there she is, without anything. There is a general depression in that class of business all over the world.

By Mr. RICHARDSON:

Q. Is logwood a considerable freight?—A. No, sir; we have had $7 a ton for carrying logwood, within a few years, and to-day vessels are carrying it for $3.50.

Q. But are not a good many loads of that brought in sailing vessels?—A. Oh, Yes. Speaking of the interests of commerce in this connection, I would say that anything that benefits the ship-owner benefits the consumer. A few years ago we used to get pretty good freights to go to Galveston. It was more liberal than other ports; we used to pay one pilotage and a half to go in and out. Mobile used to have a system of pilotage by which we used to have to pay two pilotages going in from the sea to Mobile—one at the Dog River bar and one at the Inner bar. Lately the city council have charge of it, and they have abolished the Inner bar pilotage, so that we only pay one pilotage now from the sea to the city.

By Mr. HUNT:

Q. That is about 27 miles, is it not?—A. I think so.

STATEMENT OF CAPTAIN RICHARDSON.

I said this morning that the proper course to steer on entering New Orleans would be to make the entrance between the two jetties through *there* (north). Mr. Beckwith said immediately that that would carry me ashore. I have here the United States Coast Survey, which I have all faith in, and that shows you that the north course of entry to the jetty carries you the nearest course you could possibly take.

By Mr. RICHARDSON:

Q. How about the eastern passage?—A. That is no suitable passage at all, as I said this morning.

Captain Richardson here explained to the committee the position of the jetties, &c., by reference to the chart.

WASHINGTON, D. C., *February* 14, 1884.

CLOSING REMARKS OF MR. J. B. RICHARDSON IN FAVOR OF THE BILL.

I wish to put into the case a report on compulsory pilot fees, being H. R. Document No. 392 of the first session of the Forty-fourth Congress, by a committee of the House of Representatives, of which Mr. Henry L. Pierce, of Massachusetts, was chairman. It contains a great deal of valuable information on the subject. I want to read just one paragraph of it in reply to a question or two that have been asked in regard to compulsory pilotage in English ports. This report states (and I have looked up the authority)—

In a report on merchant shipping by a select committee of Parliament in 1860 the following statement is made: "It appears that in the pilotage district of Newcastle, where the voluntary system prevails and where the navigation is difficult and, at times, dangerous, no inconvenience results from the absence of any legal compulsion to employ a pilot; neither is the demand for nor the supply of duly licensed pilots in any way diminished by the practice which prevails. On the contrary, the supply is much greater than it is at other places where pilotage in compulsory."

Mr. LORE. Where is that—at Newcastle?

Mr. RICHARDSON. Yes; and I believe there is no compulsory pilotage in Bristol Channel.

It is perhaps desirable that I should put in tangible shape the proposition that we have established. We claim that the following propositions have been established:

1. That the proposed relief of sailing vessels from the unnecessary burdens and evils of compulsory pilotage existing under different State regulations on that subject can not only be properly given by Congress, under its powers relating to regulations of commerce, but to a great extent such relief can only be given by Congress in view of section 4237 of the Revised Statutes of the United States.

2. That under the statutes of the United States unjust and burdensome discriminations now exist, in respect to pilotage, against sailing vessels, which, of all craft, it is the duty of Congress to encourage.

3. That the original reasons for compulsory pilotage on sailing vessels do not now exist, by reason of the great improvements in all our ports and harbors, and the establishment of lights, beacons, buoys, and many other aids to safe navigation therein; also by reason of the great means of knowledge furnished by maps and charts, delineating with certainty all navigable channels and the depths of water therein, and also showing accurately the dangers to be avoided, which maps and charts are now in the hands of every master mariner.

The carriage of passengers by sailing vessels also, common many years ago, when compulsory pilotage was created, is now done almost entirely by steam vessels; and even the cargoes of sailing vessels are generally of the cheaper sort, mostly the raw products of different countries, of much less value than the cargoes of steamships. It is reasonable to suppose that the ordinary business prudence of ship-owners is itself sufficient to adopt such means as may be necessary for the safety of such property.

4. That the aid which was at one time rendered by pilots is now not only much better rendered by tug-boats and steam vessels used for towage, which have come into general use, and are found in every port and harbor of the country, but that it is the aid of such tugs and steam towage vessels only that is now needed.

5. The fees exacted under the *compulsory* feature of the State pilot-

age regulations are an onerous burden, in many cases amounting to from 10 to 25 per cent. of the net earnings of sailing vessels now running. That much the larger part of these fees are paid for services declined or refused. That it is, in fact, the rule with many shipmasters to sail their vessels in and out of port, even though they have to pay, and do pay, full pilotage fees, rather than surrender the conduct of their vessels into the hands of strangers; and, that it is a general rule that if they can avoid taking a pilot by paying one-half of the regular fees, to pay such fees and then sail their vessels in or out of port themselves without any pilot.

6. That the relief sought by the bill proposed will not injure the efficiency of the pilotage system of any port; that it is not shown that there is any want of good pilots where compulsory pilotage does not exist, and that as the bill relates to sailing vessels only it will not greatly diminish the revenue of pilots, which is very largely drawn from steamers in foreign trade, the number of which is constantly increasing, and which this bill does not affect.

7. That no complaints have been made of the want of skill or inefficiency on the part of pilots appointed under the provisions of the Revised Statutes of the United States for steam vessels, which carry passengers and cargoes of great value, and which provisions have been in force for many years; and we believe it cannot be claimed, if pilots so appointed for steam vessels have proved to be proper and skillful pilots therefor, that the same appointing power will not be able to appoint pilots for sailing vessels who will be of sufficient skill and knowledge for the proper discharge of their duties as pilots to sailing vessels, where the responsibility and risk are very much less.

Adjourned.

WASHINGTON, D. C., *February* 20, 1884.

The committee met at 10 a. m.

STATEMENT OF HENRY HARBINSON ON BEHALF OF THE SANDY HOOK PILOTS.

GENTLEMEN OF THE COMMITTEE: You have recently listened to arguments delivered by certain gentlemen from New York and elsewhere on the subject of compulsory pilotage. Those who claim to represent the great State of New York and speak in behalf of her shipping interests are ostensibly desirous of supporting those clauses in the Dingley bill which propose (1) to grant licenses to pilots for sailing vessels in any port or harbor in the United States upon the same terms and conditions, so far as applicable, and with the same right and powers, as given to the pilots of any steam vessel under the laws of the United States in such ports or harbors, and which also provides that no sailing vessel piloted into or out of any port of the United States by any such duly licensed pilot shall be holden or obliged to take any other pilot in any such port, or be compelled to pay any charges or fees to any pilot for pilotage services offered and declined under the pilotage laws or regulations of any State; and (2) proposing to allow sailing vessels to refuse a pilot's services whenever a tug-boat is used for towing purposes. Gentlemen, had these been the only questions to which the New York, Boston and Taunton and New England representatives addressed themselves, my task would have been comparatively light. The real object of some of those gentlemen, however, is total abolition of compulsory pilotage, and in New York a scant few congratulate themselves that the Dingley bill

is but the entering wedge to the destruction of what friend and foe alike admit to be a noble and efficient service. I repeat, therefore, that their ostensible purpose is to support the Dingley bill, their real object being the breaking up of the pilotage system. Inasmuch, therefore, as New York claims, and justly claims, the vast majority of commerce brought in and taken out of the United States, and as Mr. Chase, of the New York Maritime Association, claims to represent New York's shipbuilding interests, I will, with your indulgence, reply to that gentleman in detail.

Careful to tell you nothing that would credit us with even a shadow of support from men whose interests are closely allied to our own, Mr. Chase led off with a statement designedly made to mislead the committee. He contended that, from 1845 to 1853, when pilotage was non-compulsory, the ship-owners, merchants, and underwriters were opposed to a recurrence of the old system, and that they declared their unfeigned belief that non-compulsory pilotage had proved satisfactory. He supplemented this statement by saying that, during these years, our merchant marine was the best that had ever floated upon these seas. Mr. Chase stopped there, leaving the impression that commerce grew, ships were built, and a merchant marine established simply because pilot's fees were paid voluntarily and not compulsorily. Right here and now, let me say that common honesty, in the absence of any representative of the New York pilots, ought to have induced Mr. Chase to admit that the underwriters—those who bear the risks—strove to undo what was done by a few of them in 1853, by petitioning Congress in 1870 to make no alterations in existing laws. In that petition they used these words, "that, by experience, they [the petitioners], have had occasion to know, and do believe, that the pilotage of this port is, in general, safely and impartially conducted, and that the pilots generally are skillful, prompt, and attentive to their duties, and law-abiding citizens. That the laws, in relation to pilotage by way of Sandy Hook, since the year 1853 have proved beneficial to the mercantile community," and "in the opinion of the undersigned, no change is needed." After urging that the earnings we received were small enough, they concluded thus: "Your memorialists herefore, respectfully ask that no essential change be made by Congress in the pilotage system of this port." This memorial was signed by Messrs. John D. Jones, president of the Atlantic Mutual Insurance Company, and the presidents of the Mercantile Insurance Company, Sun Mutual Insurance Company, and the Orient, Commercial, Mutual, Union Mutual, United States, Lloyds, Pacific Mutual, Great Western, and Californian Insurance Companies.

Under the hand of the secretary of the Board of Underwriters it was shown that these memorialists had insured risks during one year amounting to $401,420,357. If I mentioned the risks taken during 1883 by a third of these companies, probably you would not believe me. Now, gentlemen, the underwriters in 1884 confirm what was said by them in 1870. Last month they petitioned your honorable House to make no change in the law. Mr. Chase employed the strange argument that, as steam had well nigh supplanted sail, compulsory pilotage ought to be abolished. It is curious that, while Mr. Chase should argue that steam lessens the danger to a vessel nearing port, Mr. Richardson should also argue that sailing vessels have, as it were, transferred much of their liability to danger to those vessels using steam as a propelling power. Now, I contend that steam has *increased* the danger. It has induced the building of ships of greater draught, and as responsibility is measured by the value *it represents*, then the responsibility in docking *a large ocean steamer, with a full* cargo of human and other freight,

is plainly apparent. It was also declared that the only excuse for the pilot's existence was that he was needed, and the gentleman wondered why Columbus, in 1492, had the boldness to explore America without a pilot's aid. Such nonsense as this is disposed of by simply giving utterance to it. It is argued that we did not create commerce, that commerce created us, and that we are its creatures. All this we admit, gentlemen; but we really don't see what it has to do with the question. Commerce created us as a necessity, and, if it were advisable to have a cumpulsory system when our commerce was fifty per cent. less than it is now, surely it is doubly necessary now. For we contend that a captain's knowledge of the ever-varying conditions of our harbor is necessarily incomplete, and that most disastrous consequences must follow if our system is impaired. Commerce demands both punctuality and safety. In these days of rapid ocean transportation, when vessels make round monthly trips, when a day's, nay, an hour's delay is considered of vital importance to commercial interests generally, when captains of steamers, in their desire to get at the dock, will not even stop their ships for a pilot, when it is a matter of the deepest concern to land the mails as early as possible, when the hundreds of steamers do not pursue one direct course; nay, when all the world is watching a fast steamer's record for swift sailing, you can readily understand why there should be more than ordinary caution displayed the moment a vessel crosses the bar inward. Now, gentlemen, the captain's responsibility ends where the pilot's begins. The moment the pilot's hand is on the wheel, the uncertainties of the captain are removed, and the hearts of the passengers made glad.

The Sandy Hook pilot is held to a rigorous accountability for his actions, his examination is severe, his training complete. He is compelled to board vessels when signaled, even if its crew be stricken down with infectious disease. His whole duty is defined, and none doubt his efficiency. If you abolish compulsion, he is no longer your servant, and his responsibility is devolved upon any person who chooses to set himself up for a pilot. Abolish the system, and you open the door for any one, with the probability that a future Congress might be induced to make it a political creation, such as other New York departments are. Congress, in its wisdom, seen fit to hold fast the compulsory law. "Safety first, safety always," has been its watchword, and the same principles which actuated it in 1789, prompt it now. Notwithstanding all the changes of maritime law, Congress has steadily held the doctrine that self-preservation is the first law of nature. To protect life is a Heaven-born injunction, and, gentlemen, I submit to you that the loss of one single steamer with her priceless cargo of human freight would amount to more in actual financial loss to the vessel owner and more than all the pilotage that has been collected during the past century. Were it not for the sake of humanity, I could wish the suspension of the compulsory law for just one month when the weather was bad. That month would satisfy Congress and possibly our opponents that it required more skill than a captain could summon to prevent terrible loss of life. It has been fitly asked, What are the stakes? On the one side, the safety of lives and property; on the other, the economies of a few well-meaning men who shut their eyes to other considerations. Much is made of the argument that Congress has authorized large expenditures of money in the erection and equipment of light-ships, beacons and buoys. Now, as commerce increased, it became necessary that every means of safety should be employed, and buoys, marks, light-ships and *other warnings* were established, not to supplant the pilots, as our friends *argue, but to assist* them in their good work. To argue thus may seem

selfish, and perhaps it is so, for it affects our very existence. But as American citizens, we have a right to act the part and claim the prerogatives of American citizens. We do not care to dwell upon the fact that about four-fifths of pilotage fees are paid by foreign vessels, but desire to lay down the broad proposition that a compulsory pilotage law is essential to the safety of human life and property in this and other maritime nations.

Mr. Chase further asserted that there were plenty of ports difficult of access, yet entered without pilots and with the greatest safety. Like most other affirmations, it lacks proof. Take England, the greatest maritime nation upon earth; does she attempt to unsettle her pilotage system? No; her laws are, if possible, more rigorous than our own. Though bold in enterprise, she has always displayed great caution and conservatism in dealings with pilotage, refusing to listen to any suggestions which might imperil her carrying trade. And let me ask, gentlemen, why the United States should be less anxious in this matter. England's steamship companies, on the whole, willingly pay the pilots' fees for entering the port of Liverpool, yet object to pay such charges at New York. The reason is self-evident. Human nature asserts itself. They want to get as much labor as they can at the lowest possible cost. This is all the more apparent when you take into consideration that foreign capitalists are paying for American labor.

One word with regard to the laws of different States. When Congress delegated certain functions to States possessing ports on the seaboard, it was very properly expected that each State would so regulate its duties as best to enhance the weal of the State and the general good of the country. If one or more States have made mistakes in the matter of pilotage and other questions, in my judgment the system of pilotage should not in consequence be overthrown. And right here let me say that this attack upon us would never have emanated from New York, had the Sandy Hook pilots yielded to the demands of a few foreign lines that we should give up one-third of our earnings. The Maritime Association has declared that the pilots are a useful and deserving body of men and should be well supported in order to keep up the efficiency of the pilotage service. This commendation was made in 1879. There have been irregularities, no doubt, but we submit that New York, which has done the largest business, has made the fewest mistakes. Mr. Chase stated that Maine, with the most dangerous coast line on the Atlantic, had non-compulsory pilotage and that it had worked well. He forgot to tell you that scarcely a fraction of the transatlantic vessels coming to the United States go direct to any port of the the Maine coast. The conditions which apply to her cannot for a moment hold good to New York, and hardly any other State in the Union. Georgia, Delaware, Maryland, New Jersey, Virginia, and Florida, all consider the compulsory law as generally beneficial, and I will undertake to say that the opposition to it is only from a pronounced and parsimonious few.

Now, gentlemen, let me say a few words on the bill before you. It is unjust to the pilots, and dangerous to commerce. The tug is inadequate, unwieldy, and practically unable to do the double duty of piloting and towing. In a fog, outside the bar, and in rough weather, no tugboat could stand the strain. The captain of the vessel, in many cases, would sometimes be in imminent danger of losing his ship. The tugboat pilot receives his certificate from the Federal board of inspectors, whose competency has more than once been questioned. You cut down by this bill a good system and substitute no adequate provision for it. But where are our opponents? Who are they that ask for this change? A few iconoclasts who have an idea that our commercial marine can be

best built upon the ruins of several hundred pilot boats driven from a service admired by the world. Who are our opponents, I again ask. Certainly not the whole of the members of the New York Maritime Association, but a small and unimportant caucus urged on by the foreign steamship lines to pursue this course. Certainly not the Chamber of Commerce, for its members have not put themselves on record in favor of any proposition which might injure the service. They have ever been its zealous guardians, and I know they will not see our organization broken up. On this bill they have taken no action, and I am informed that Mr. J. Ernest Miller, who presumed to represent that honorable body here last week, had no instructions to do so, and that as a matter of fact its members are much incensed at his action. These men who have appeared before you are the same who appear at Albany every session, and Messrs. Barnes, Chase, and Miller represent very few more than themselves.

There is one important objection to this bill which I wish in conclusion to urge. The relative qualifications between a steerer of a tug-boat and a trained pilot are these: The former is a Bohemian in character; that is, he can be put on duty at an hour's notice, without due inquiry into his knowledge of the harbor, and leaves one boat for another without any special aptitude or recommendation; is, in many cases assigned to duty far away from the harbor, and has had little experience beyond his particular route. His certificate from the Federal board of inspectors signifies little more than that the holder of it can navigate his particular craft. His training, like his knowledge, is defective, and the passage of this bill would assuredly, in a short time, prove the correctness of this view. On the other hand, the Sandy Hook pilot has to undergo a severe technical training, devoid of favoritism, and conducted by two of the oldest and most experienced captains in the service. This arduous test takes place in the presence of the Pilot Commissioners. After passing a successful examination, the pilot is only allowed to handle vessels of light draught for the first year, his responsibility becoming greater with his years of experience. His scale of competency is properly balanced.

A statement was made by Mr. Chase to the effect that between the years 1845 and 1853 pilotage was satisfactory though non-compulsory. You were not told, however, that the disasters which happened during the latter part of that period hastened the passage of the compulsory law. Why, sirs, in 1854, the captain of the New Era, a sailing vessel with about 400 souls aboard, bound to this port, would not take a pilot, and the staunch craft with her precious cargo sank, over 400 being drowned near the spot where Asbury Park is now situated. Those who deprecated compulsory pilotage, after that disaster hung down their heads for very shame. It is to prevent these wrecks that our pilots have to submit to this severe training and examination, and to place such a heavy trust in the hands of irresponsible tug-boat men would be ill-advised and injurious to commercial interests generally. I thank you, gentlemen, for your attention. I ask in the name of the pilots of New York for your favorable consideration. Deny not to the 50,000 cabin passengers and hundreds of thousands of immigrants that land on these shores those safeguards that you would provide for your own families. We leave our case with you, and believe that just as certain as the sun rises in the east, so may we expect from you our due measure of justice and equity.

I submit a memorial of the marine underwriters of New York City on *this subject:*

To the Senate and House of Representatives of the United States in Congress assembled:

The undersigned, marine underwriters of the city of New York, respectfully represent that, incurring responsibilities of many millions of dollars upon vessels and cargoes, they represent a very large interest in the safe pilotage of sea-going vessels—an interest oftentimes greater than that of the vessel-owners themselves—and by reason thereof they have sought to keep themselves advised respecting the means best adapted to insure this safety.

That experience enables them to commend the pilot system of the port of New York as in general safely and fairly conducted. The pilots have for a long course of years under the existing discipline proved themselves to be skillful, prompt, and attentive to their duties and to be law-abiding citizens. The per centum of loss or disaster in any wise attributable to fault on their part is infinitesimally small when computed upon the vast commerce which yearly passes through the shifting and intricate channels of the harbor.

That the propriety and indeed necessity of special guidance of sea-going vessels into and out of harbors have been generally conceded in commercial communities.

This guidance should be duly regulated and enforced. Each vessel has in charge cargo intrusted to it by various shippers. And the port channels are narrow highways over which other vessels must pass; neither the cargo nor the highway should be left wholly at the mercy of a vessel-owner or master.

That, so far, at least, as concerns the laws of New York and New Jersey, the pilot system provided by these laws has worked well and with good results, and there seems to be no good reason for its abolition or for changes which will impair its efficiency.

Your memorialists therefore respectfully ask that no material alteration of the system be enacted by Congress, and especially that the essential requirement of compensation for the offer of pilot service be not abrogated.

January 11, 1884.

I. D. JONES,
President Atlantic Mutual Insurance Company.
ALFRED OGDEN,
Vice-President Orient Mutual Insurance Company.
JOHN P. PAULISON,
President Sun Mutual Insurance Company.
W. J. COMES,
President Commercial Mutual Insurance Company.
FERDINAND MOTZ,
President Great Western Insurance Company.
HIGGINS & COX,
Attorneys for Subscribers at United States Lloyds.
H. & C. L. DESPARD
Agents Boylston Mutual Insurance Company.
L. A. WIGHT,
Underwriter British and Foreign Marine Insurance Company, New York Branch.
CATLIN & SATTERTHWAITE,
Attorney's Insurance Company of North America,
China Mutual Insurance Company.
HUGO MEUJEL,
General Agent Union Insurance Company of Philadelphia.
GENERAL INSURANCE COMPANY OF DRESDEN,
J. RERHENMANN.
SWITZERLAND MARINE INSURANCE COMPANY OF ZURICH,
J. RERHENMANN.
THAMES & MERSEY MARINE INSURANCE COMPANY LIMITED,
A. J. MACDONALD, *Agent and Attorney.*
Per A. MACDONALD, *Attorney.*
G. BENTHAM RAE,
Agent Sea Insurance Company Limited.
PROVIDENCE WASHINGTON INSURANCE COMPANY,
POWELL & MARTIN, *Agents.*
THE UNIVERSAL MARINE INSURANCE COMPANY LIMITED,
JAMES LAWSON, *Attorney.*
SOUTH AND NORTH AMERICAN LLOYDS,
By WHIPPLE & CO., *Attorneys.*
ARTHUR LEARY,
Attorney National Lloyds.
THE UNION MARINE INSURANCE COMPANY LIMITED,
By JONES & WHITLOCK.
Agents and Attorneys.
STEPHEN CROWELL,
President Phœnix Insurance Company.
BOSTON MARINE INSURANCE COMPANY,
HERBERT FULLER, *Vice-President.*

WASHINGTON, D. C., *February* 20, 1884.

The following statement was submitted on behalf of the Delaware pilots:

To the Committee on American Shipping, House of Representatives:

Opposing the enactment of the proposed or any bill abolishing the compulsory clauses of the pilotage laws of the several States, the undersigned, on behalf of the pilots of the Delaware Bay and River, respectfully submit the following statement of facts and argument:

The whole subject of pilots and pilotage was, by the First Congress, in 1789, left to the regulation of the several States. It has remained with them ever since, being regarded as a matter in which the legislatures, owing to their more familiar acquaintance with the necessities of each particular port, could act with fuller knowledge of what was required. The power of Congress to interfere and, in fact, exclusively regulate the whole system is neither denied nor doubted, but so long as State legislation secures safety to commerce and the performance of the duty of the nation to other commercial countries and its own citizens, it is submitted that no good reason can exist for the interposition of the national legislature.

The effect of the proposed bill, if enacted, will be not only to alter the basis of all previous legislation in this country, but to put American law on these subjects at variance with those of every other civilized commercial nation.

This should be done, if at all, only after the most careful investigation. The assertions of the promoters of the bill, whose interest in the matter is confessedly altogether personal, and who are certainly deeply imbued with prejudice, even if they be all founded in truth, could at the utmost only justify the consideration by Congress of the whole subject of commerce as affected by State laws, and its intelligent action after hearing all parties interested and disinterested in the various commercial ports. To act otherwise would be unstatesmanlike, unjust, and only not illegal because of the supreme and unlimited authority given by the Constitution.

To such an investigation and the legislation that would follow it, no objection could be made, as it could not be otherwise than beneficial to the country at large, and just to all concerned.

The passage of the proposed bill can only be justified by presuming that the usefulness of pilots was a thing of the past, and that they are now and will be in the future simply an evil. This proposition is indeed broadly asserted by the representatives of a few members of the Maritime Exchange of Philadelphia. If this has been fully proven to you, or if you are willing to accept their statement as verity, further argument is useless.

If the harrowing statements of the grievous wrongs from which the promoters of this bill allege they suffer have raised in your minds a doubt on the subject, the need of full inquiry is self-evident. If, in spite of all that has been advanced, it is believed that an efficient pilot system is still a commercial demand, this bill should be thrown out, and for any mere amendment in the details of the existing laws, recourse should be had to the local law-making bodies, who can best determine what is needed.

The main reasons alleged in favor of this billare—

First. That the pilotage laws of the States aresystems of "class legislation," oppressive to commerce, opposed to the spirit of free institutions, and destructive of healthy competition.

Second. That the amount of fees fixed by these laws are excessive and out of proportion to the services rendered.

Third. That the services performed by pilots could be as well, if not better, done by the masters of vessels and their crews.

Fourth. That pilots in the present state of commerce are useless, and their compensation a tax for which they give nothing valuable.

It is proposed to examine each of these allegations, none of which are believed to have any substantial foundation.

First. *Are the pilotage laws of the several States systems of "class legislation," oppressive to commerce, opposed to the spirit of free institutions, and destructive of healthy competition?*

The reasoning of the promoters of this bill in support of their proposition appears to be based on the premise that the pilotage laws are passed in the interest of and solely for the benefit of the pilots. A moment's consideration of the subject in the light of the statutes will show that the fact is exactly the reverse, and that their object is the fostering and protection of commerce and the restraint of the pilots. The acts of assembly of Pennsylvania and Delaware (which are fair examples of those of all the States) provide:

(*a*) That before a party receives a license he shall serve an apprenticeship of six years on board a pilot boat; at the end of which time, on passing a satisfactory examination before the port wardens and commission of pilots, he receives a license to pilot vessels of light draught.

(*b*) That before receiving license to pilot larger vessels, he must work under his first one a period of eighteen months, and pass a further examination. This makes a virtual apprenticeship of seven and a half years.

(*c*) A pliot is bound to go on board of any vessel demanding his services and convey it to port.

(*d*) Pilots are bound to keep and maintain, at their own expense, a sufficient number of boats and vessels to properly carry out the laws regulating them.

(*e*) They are prohibited from following other business while holding their licenses, without permisssion, to be granted, on cause shown, by the wardens of the port.

(*f*) They are subject to the summary jurisdiction of the wardens, who have power at any time to revoke their licenses or punish them in other ways.

(*g*) A refusal, under any circumstances, to board and pilot a vessel asking their services, causes a forfeiture of license, as does a neglect or refusal to act under a license for two weeks.

(*h*) Their compensation is regulated by law, and the demanding, asking, or receiving of a greater sum than that thus fixed works a forfeiture of license for a year.

Presuming—and until the offering of this bill it has not been doubted—that a pilotage system is a necessity, it is readily seen that the State has done its duty and raised an efficient one. It requires, as a prerequisite, a long term of apprenticeship for the purpose of a full education; a sufficient provision to make the service effectual, and provide all vessels with pilots who need or ask for them; a court to compel strict attention to duty, with full power to enforce its decrees; and finally a fixed rate of compensation which prevents imposition and extortion. Under these circumstances there is, between the pilots and the State, an equitable contract by which the pilots give full consideration in time spent and knowledge acquired and applied, and the State guarantees their receipt of pay, and that in the exercise of their

profession they shall not be hampered or interfered with by the competition of others who have not paid the same consideration, and the further guaranty that those for whose benefit their time is spent and the law shall make of use their services. Clearly there is nothing unreasonable in this. No fairer contract can be cited or even imagined. It is the duty of a commercial State inviting trade to its ports to see that the lives and property of those who come are made reasonably safe, and it is but just that the cost should be repaid by those for whose benefit the expense is incurred. Legislation places certain officers in position to work for a class whose safety requires its performance, equitably apportions the costs, and compels each of the benefited class to pay his proportion. Such laws are no more for the benefit of any "class," in the offensive sense of that term, than any act creating an office, defining its duties, and regulating its compensations. Pilots are officers of the law as much as judges, surveyors, recorders, or registers, and that they have exclusive rights is no more a just cause of complaint than that every man is not allowed to survey his own town lot, record his own deed, or register his own will, or create the court in which, or name the judge before whom, his cause is to be tried.

If the only parties interested were the pilot who does the work, the captain who employs him, and the owner by whom he is paid, it might, perhaps, be safe to allow them to settle the whole matter. But when it is considered that the lives of passengers and crews and the reputations of our ports and harbors are at stake, regulating laws are as necessary, and are to be classed with those relating to building and boiler inspections, health acts, and dozens of similar ones, of the expediency of which there is no question, and which one would deride as "class" would be deemed insane.

It is, however, asserted that payments under the compulsory sections of pilotage laws are oppressive because often unnecessary, and that a due regard to safety and self-interest will always compel the taking of a pilot by masters and owners when necessary. Unfortunately, "the love of money is" still "the root of all evil," and every-day experience of the falling of imperfect buildings, the bursting of defective boilers, the sinking of badly-constructed, worn-out, and badly-furnished vessels, renders argument on this point superfluous. To the shame of human nature, it must be admitted that no commodity is cheaper and less taken care of than human life, and notwithstanding all the watchful care of parliaments and legislatures, it is to-day one of their hardest tasks to enact and enforce effective laws to protect the employed from himself and from the employer. No thinking man believes for a moment that travelers and factory hands would be one tithe as safe as now if the laws imposing the restrictions, inspections, and sanitary and safety regulations on carriers and manufacturers were abrogated; and yet the proprietors of these have in every case the same self-interest to adopt the provisions of these very acts as would owners and masters to employ pilots. The risk would be taken, as it too often now is, in spite of the law, and the profits pocketed in hopes that the evil day would be far off.

Competition, it is claimed, would increase the efficiency of the service, increase the number of pilots, and lessen the cost. The ready answer to this is, first, that there is no complaint as to the qualification or of the inefficiency of the force, as under the present system an unfit or inefficient officer is easily disposed of under the law; there is no pretense that the number is too small, there being ample provision made by the statute for an increase, either permanent or temporary, as may

become necessary; the price is fixed by law, and can be reduced if too high, but which, as we shall show further on, at present rates, barely affords a decent living. The proper place to apply for alteration, if any should be made, is, as already shown, not to Congress, and this bill does not even touch the question. Competition will not remedy the pretended evils, and the cry for it is mere clap-trap to cover the real demand, and becomes better the address of a demagogue than a sober address to a leading committee of a body of grave statesmen.

To sum up on this point, pilotage laws are only "class legislation" in the sense and as are all police and restrictive laws; they only oppress commerce by making it pay the special as distinguished from ordinary public expenses legitimately incurred for its benefit and the benefit of those who live by it; they are opposed to the spirit of free institutions only as "free institutions" are synonymous with institutions unrecognizing and not under the subjection of law, and prevent the "healthy competition" cried for only because such competition would be ruinous to commerce, defeat the very objects of the system, be dangerous to life and property, and subversive of all good policy and results.

Second. *Is the amount of compensation fixed by these laws excessive and out of proportion to the services rendered?*

The duties required of pilots of the Delaware bay and river are primarily to pilot into the port of Philadelphia any and all vessels requiring their services. The distance is somewhat over one hundred miles, and the compensation is dependent wholly upon the size of the vessel, and is fixed by act of assembly.

They are bound to board and convey to port any vessel asking their aid. The presence of contagious or infectious disease is no excuse; and sickness and death arising from their carrying out their duty is not an uncommon occurrence. During one summer five of their number died from disease thus contracted, and in numerous instances it has been taken home to their families, who have suffered with them. The want of proper accommodations on foreign vessels is well known, yet as they find them they must take them; and particularly in winter they suffer hardships of no ordinary degree. One pilot, during a severe spell of weather a few years since, was on a vessel seven nights, obliged to sleep on the bare floor with no covering but his jacket; and this is far from being an isolated instance. They must be at sea in all weather, and answer a signal by boarding a vessel at once, no matter what the danger. Lives are often lost in performing this duty. A large portion of their time is necessarily spent away from their homes and families, which throws upon them extra expense, and deprives them of many comforts.

They keep and maintain six boats, fitted specially for their business, in which they have invested about $120,000, which depreciate in value rapidly, and are a so constant source of large expense for repairs and maintenance that it costs considerably over one-sixth of the entire income of the one hundred pilots engaged in them to pay their expenses and a reasonable profit to their owners. Such is the risky nature of their business, that for life insurance they are required to pay a largely increased premium. By accident-insurance companies they are rated in the most hazardous class, and marine companies take their vessels when perfectly new at about double the ordinary rates of others of the same description in other lines.

The wear and tear on their vessel-property is illustrated by the fact that one of their vessels, which cost originally over $9,000, and on which

large sums had been from time to time spent in repairs, was lately sold, after twelve years' service, for only $800.

The average income of the pilots of this port does not exceed $900. In some few instances it is of course more, but the majority make about that amount or less.

Of the one hundred pilots, most of whom are past middle life, not 10 per cent. are to-day worth $5,000. Extravagant living is unknown among them.

Many of the signers of the argument presented by the Philadelphia Vessel Owners' and Captains' Association started in life with the same means and at the same time with pilots now in service. Their abilities were presumably equal, but the contrast in their present pecuniary standing (most of the former being possessed of considerable wealth) is a sufficient commentary on the profits of the pilot's vocation. Outside of his pay the pilot has no opportunity to acquire, and by it he must stand or fall. Certainly his labor is not less exacting than that of those who are to day striving to cut off his means of support.

If, in view of this plain statement, every word of which the fullest investigation will only confirm and make stronger, any member of Congress, or any other unprejudiced person, will say the pilots of this port are overpaid, and that their compensation is out of proportion to the services rendered, argument would be worse than useless. The facts speak for themselves. The rate of compensation is to be measured by the labor performed, both as to quality and quantity, and the risk incurred. The average of a pilot's service does not exceed twenty-five years. How much of this $900 per annum can he save for his old age, if he lives, or the support of those dependent on him after death? No special knowledge is required to calculate this. The answer of any member of the committee will be satisfactory to us. A rich pilot's widow would be a curiosity.

Third. *Can the services performed by the pilots be as well done by masters of vessels and their crews?*

If the entrance to ports through rivers and bays, with narrow and constantly shifting channels, can be as easily navigated as the sea, this query can safely be affirmatively answered; otherwise, the reply must be negative.

The experience of all past time is unanimously against the proposition of those who favor the passage of the bill. Something modern must have changed the aspect of affairs to entitle them to favor. They have been time and again before the legislatures of New York, Massachusetts, and Pennsylvania, with the same arguments and statements advanced here, and after the fullest hearings the decisions have always been adverse to their demands. If there was merit in their claims, these bodies must have been either exceedingly stupid or wofully corrupt, and we are anxious to learn which horn of the dilemma will be adopted to explain their admitted defeat. This is not the first time Congress has been asked to interfere, but heretofore it has always refused. Verily, like the Pharisees of old, our opponents must expect "to be heard for their much speaking." If money and the influence of social position carry weight, it certainly must be on their side; for, from their own statements, they control both, and these seem, with vituperation of pilots, to be their principal stock in trade. As yet they have advanced nothing which has not been refuted time and again; and if history and present experience go for aught, they are likely to again meet the same fate.

The charts and surveys of the Government are doubtless exceedingly useful, and the money laid out in light-houses and other nautical im-

provements has been well expended; but we have yet to learn that book-knowledge of any science will take the place of experience, and the actual results arising from the piloting of their own vessels by masters is not calculated to increase the confidence of the community to such an extent that it is yet ready to put them in sole charge of the navigation of our ports and harbors; and the lists of vessels lost in their charge is too large to justify us in clothing them with the infallibility and perfection they claim.

Undoubtedly many of them deem themselves perfectly competent to do the work, and their owners are easily swayed by their interest to agree with them, if, indeed, their desires have not been the motive power in inspiring their masters with courage on the subject. If but $900 per annum can be realized by a compulsory system, the immediate reduction caused by its withdrawal will drive the better and younger men into other avocations, and prevent new ones equally qualified from taking their places. Long apprenticeships will not be served, nor any care taken to acquire a knowledge of a trade in which the rewards will not afford a living; and want of these cannot but materially lower the standards in any business. Possibly, from charts and surveys, any man of ordinary intelligence might with a few months' study pass an examination before a board which had acquired its knowledge in the same manner; but the laws of all commercial nations have wisely required a long apprenticeship to precede this examination of a pilot, who should know, from actually going again and again over the ground, all the difficulties and dangers he is to meet. Unless Congress is prepared to say this is useless, and that it is willing upon the merest say-so of any one who has spent a short time in the study of charts, to place in his hands the lives of passengers and crews who look to its laws for protection, and the reputation at home and abroad of the safety of our coast, it will not take away the foundation-stone of a system that has stood the tests of a century here, and which was, when adopted, based upon long and universal experience abroad.

The allowing of every owner and master to be the judge of his own qualifications to pilot his vessel into any port he may select, and on his own judgment to risk the lives of those under him, seems simply monstrous, and carries with it its own condemnation. And yet this is what you are asked to do.

Can it be done safely? Can commerce be helped by such an innovation? Is such action consistent with the care every Government should exercise over its citizens? Or would it not be placing the lives and property of the many at the mercy of the cupidity, avariciousness, and selfish grasping of the few?

Would not the effect of such a change in the law be to compel the careful, conscientious ship-owner, solicitous of the welfare of his passengers and employés, to either abandon the business, or be forced by the competition and lower prices of the unscrupulous to adopt a course which he knew to be unsafe and perilous to himself and all connected with him?

Would not another effect be to drive honest masters, knowing their capabilities and the dangers attending their attempts to enter ports unaided, out of their profession, leaving only the unscrupulous who are willing to risk anything and everything for love of gain and fear of their owners, to sacrifice, when danger came, those whom it is their duty to protect and defend?

Fourth. *Are pilots in the present state of commerce useless, and are their fees taxes in return for which nothing is received.*

Many of the points arising in answer to this proposition have been before touched upon, and many more which arise from the theories and misstatements of the promoters of the bill are like other theories which, being impracticable, are incapable of proof, and other statements, because of their untruth, only answerable by simple denials and emphatic counter-statements.

The schooner Ida Lawrence, in the summer of 1878, commanded by Captain Barrett, who was much opposed to the pilot system, arrived from the West Indies off Cape Henlopen; he and his crew were stricken with yellow fever. He gave orders to his mate to signal for a pilot, which was done. The pilot came, took charge of his vessel, put her into the Breakwater, gave him all possible assistance, brought him a doctor, and all without one cent of remuneration.

When from any cause coasting vessels are in distress from sickness, they invariably seek relief from the pilots. They know this will be given freely without money and without price. The pilots of this port are proverbial for their willingness and anxiety to aid and succor the distressed and sick.

The schooner Oliver Ames, Captain French, some years since, was bound from Georgetown, D. C., to Taunton, Mass. She was struck by lightning and hoisted distress signals. His own friends lying all around him where afraid to venture ashore for a doctor. The crew of pilot-boat No. 1, in the midst of the storm, went ashore and brought medical assistance as soon as it could be procured.

The statement that more accidents occur on pilotage grounds to vessels in charge of pilots than to those without is simply false, as is also the statement that accidents to the latter are almost unknown.

There is now a three-masted schooner lying on the Brandywine shoal, and this is almost a weekly occurrence. In 1877 the schooner Ruth Baker, bound from Philadelphia out, was sunk on Dead Man's Shoal. In both these cases a total loss of property ensued. Both could have been saved by pilots. They could have had, but were not compelled by law to take, a pilot.

In March, 1878, the barkentine Mary Agnes, from Cuba to Breakwater for orders, in which case there is no compulsory pilotage, refused pilot, got ashore, then took a pilot, who, with the assistance of his boat and crew, got her off and took her into a place of safety.

In October, 1879, the bark Skillmon refused pilot up, being bound to Breakwater for orders, went ashore, then took pilot from another boat, and was got off in safety.

In October, 1878, Italian bark Maritilino was caught in a gale of wind in the bay during the night, lost anchors and chains, and no doubt all would have been lost, as the captain stated, had it not been for the pilot. He considered himself under life-long obligations to his pilot.

In 1876 ship Hannah Morris, from England, bound to Breakwater for orders, was offered pilot 45 miles from shore, which he refused. Afterwards he got among the shoals, then signaled for pilot, which he obtained.

The master of the brig Ocean Bell, lost on Brandywine Shoal in 1875, bound from Philadelphia to Boston, told the pilots that he dared not take pilot through fear of his owners. He felt the need of one, and such cases of captains being obliged to take such risks against their better judgment often occur.

It is often asserted that tug-boats can and do perform all the pilots' work with perfect safety. This can easily be disproved. We will cite two instances occurring lately.

The tug Adelaide came up light, after having a tow down, and ran ashore on the Brandywine, and became a total loss, her captain not knowing his ground.

In August, 1879, the tug Eutaw was picked up in the bay by Pilot J. L. Eldridge. She had towed a vessel down. A gale came on; she lost her way, and, by the admissions of those in charge, would have been lost, with all on board, but for being met by the pilot.

The tug-boat Argonatta, only a short time ago, took in tow the bark Osage, which was bound from the West Indies to Philadelphia; the tug-boat captain, holding a Government license to pilot his boat, thought he knew the channel without the assistance of a regular licensed State pilot, ran the bark ashore and abandoned her, after which it required the services of three steamers to get her off the shoal; she took a regular branch pilot, and was conveyed safely to port.

Much good has been done by the pilots in saving life and property. A notable instance of this, which illustrates the dangers arising from the self-sufficiency of masters, will bear repeating:

In October, 1869, the boat Grinnell answered the signal for a pilot of the bark Kingdom of Belgium, 17 miles southeast of Cape Henlopen. He was informed that she was bound from Madras to New York. The pilot who boarded her told the captain he was on the wrong course, and was urged to change it. He was ordered by the captain to his own boat, with the remark that the captain could attend to his own business, and he might go to h—l. The bark kept steering in for Cape Henlopen. One hour afterwards the same boat fell in with the ship British Princess, flying signal for pilot. The same pilot went on board, found her also bound for New York, gave her captain the same advice, which was taken. After seeing her safe the boat proceeded after the Kingdom of Belgium, but before reaching her she went ashore. At the request of the chief mate the pilots took charge, and, with assistance of their boat and crew, got her off, and the pilot took her until she was placed in safe hands to reach New York. Her value, cargo included, was about $250,000. The Princess and her cargo were valued at $300,000, all of which was saved by the interference of these pilots and their boats.

During the gale of October 4, 1877, nine crews were taken off coasting schooners at the Breakwater by the pilot-boats, at risk of their own safety, they being surrounded by fifty of their own class, all but one unable or unwilling to help them, or even offering it. The vessels were all lost, and the Government has appropriated $25,000 to clear away the wrecks.

On March 21, 1864, four apprentices and a pilot rowed in the midst of a blinding snow-storm and took off the entire crew of the schooner Eldridge, at the risk of their own lives. The schooner had gone down while anchored at the Breakwater. In March, 1873, pilot-boat No. 3 fell in with the helpless crew of an abandoned bark—one man dead, the rest were saved.

Some years ago three of the pilots fell in with the barkentine Florida, at sea, 25 miles from Cape Henlopen, with every person on board sick except one passenger, the vessel having been struck by lightning, and was lying at the mercy of the waves. The pilots boarded her, made sail, cleared away her anchors and chains, and took her into a safe harbor. They went ashore for the doctor and gave the crew every relief possible. For all this their whole compensation was the legal pilotage of $63, or $21 each, of which one-third went to the boat.

The origin of the movement culminating in the present bill is fully

and truthfully shown in a statement published in the New York Herald of February 3, and printed herewith as Exhibit B.

The efficiency of the pilot system of the United States is evidenced by the fact that accidents and complaints, as to pilots, are proportionately fewer than those of any other country.

The effort to lay at the doors of the State legislatures, from their enactment of pilotage laws, the decline in American commerce and the small amounts of profits realized by ship-owners, is too ridiculous to merit reply. The war, in a great measure, destroyed American shipping, and the profits of the trade have suffered, as has all other business, from the general depression of the last few years. That the comparatively small sums paid pilots have appreciably affected profits, particularly in view of the fact that of the coasting vessels leaving and arriving at Philadelphia not 5 per cent. pay pilotage, is impossible. If our opponents will deal frankly with the law-making powers, and honestly ask for proper legislation, after full investigation of the causes of the decline of the shipping interest, we will cordially second the effort. Their interest in that respect is our interest, but while they confine themselves, as heretofore they have done, to false statements, perverted figures, threats of the power of wealth and social influence, and arguments made up in equal shares of fallacy, duplicity, and slanderous blackguardism, self-respect and a proper regard for self-preservation will compel us to fight them to the bitter end. Our cause is a just one. The effort to rob us of our all, and to cause us to give up our life avocation, on the ungrounded plea that we are robbing others of their means by reaping where we have not sowed and exacting what we have not earned, is so manifestly and selfishly monstrous that we are satisfied that after a full consideration of the facts by an impartial committee, the houses of Congress will bury it so deep that even the trump of Gabriel on the great day will not be able to raise it.

Respectfully submitted on behalf of the Delaware pilots.

WILLIAM FULLER,
J. L. ELDRIDGE,
JAMES J. MASON,
FRANK ELDRIDGE,
JAMES A. CLAMPITT,
Committee.

EXHIBIT B.

WORKINGS OF THE PILOTAGE SYSTEM.

Let us see how the present system works. As the law is now, the pilots are required to board any vessel signaling them. Whether the vessel be large or small, the pilot has no choice but to go aboard. If two vessels are approaching, almost simultaneously, one large and the other small, one which will pay a large sum and the other only a small rate, the pilot, although he may be the last one in the boat, is bound to take the smaller vessel if it has the precedence of a minute over the large one. Would it be fair to apply a rule so stringent to the pilots if it was voluntary with the vessels to take or not to take a pilot? No matter what may be the condition of a vessel requiring a pilot, whether there is disease on board or she has a clean bill of health, whether she is in distress or all shipshape, he must go on board when requested under a penalty of $50 or suspension for refusing. Out of this compulsion comes the right of a pilot who brings a vessel in to take her out again when she next leaves the port. This is the point about which the merchants just now are making the loudest outcry. Within a few years the character of the shipper has undergone a complete change. The revolution has come with the establishment of great steamship companies and large commission houses doing a vast trade. Before the introduction of steam, shippers were owners, or part owners, of their vessels. Now they

do business only on commission, and if it were not for this compulsory clause in the pilot law, they would make commissions out of the pilots. At present the pilot who takes a vessel to sea as a matter of right because he brought her into port acquires that right under the law, because he has undergone the delay, labor, and expense of waiting for her arrival. Do away with the compulsion, and shipping houses would be able to employ pilots who, acting under the advice of Sir Joseph Porter, K. C. B., "stick close to their desks, and never go to sea," except to take vessels out when they are ready to sail. The injustice of this is manifest. The real pilots would be compelled to toss about outside for days together, waiting for vessels which could take or refuse them at pleasure; and when in stormy weather a vessel which would have been lost but for their skill, was safely brought into port, the commission house to which she was consigned could designate a pilot to take her to sea who was as much a part of the establishment as the junior partner or the book-keeper.

THE ORIGIN OF THE MOVEMENT.

The present movement against the pilots originated with the foreign steamships, who have succeeded in getting the Maritime Association into it, pushing them to the front. Fully 80 per cent. of the pilotage paid at this port comes from foreign ship-owners; yet an effort is made at Albany to make it appear that the movement itself is of American origin. Mr. Miller, a member of the Maritime Association, so stated before the legislative committees on commerce and navigation last week. That this is not the case is apparent from the fact that the association is mostly composed of foreign shipping merchants doing business in this city. The late Christian Funch, for instance, was a member of the first committee to go to Washington and Albany. Mr. Funch made over $9,000,000 out of the commerce of this port, and while he built for himself a castle in Sweden, he never owned a house in New York, and even ordered his body to be cremated abroad, although there is an excellent furnace in Pennsylvania. It is men of this kind who are urging the destruction of our pilotage system, that the control and profit of the business may be in their own hands. They assert that the pilots are a burden upon the port, whereas they are themselves the burden upon American commerce. There is scarcely a commission house in New York to-day that does not exact 10 per cent. out of the bills of carpenters, blacksmiths, sail-makers, stevedores, and, indeed, of workmen of every class employed on consigned vessels. There are honorable exceptions, of course, but most of men in the present movement are "spinners" of this kind, and there would be no movement against the pilots at this time if the pilots were willing to pay them a commission. A number of commission houses have approached the pilots with a proposition to allow them a commission; and this not being acceded to, they turned upon us as men whose lines are cast in very pleasant places, and who are rewarded for their services more generously than any class connected with the commerce of the metropolis.

WASHINGTON, D. C., *February* 20, 1884.

JOHN H. COOPER, on behalf of the Maryland pilots, presented the following in opposition to the bill:

To the honorable the Senate and House of Representatives, Washington, D. C.:

GENTLEMEN: The undersigned, the Association of Pilots at Baltimore City, respectfully represent to your honorable bodies, that the proposed action of your two houses in repealing that part of the Revised Statutes in relation to compulsory pilotage will work great hardship to them and force them in a great measure to retire from the business, and that too after they have at a great expense provided themselves with a powerful steam vessel in addition to their sailing ones to meet the growing demands of commerce at this port.

They would represent to your honorable bodies, that they have not only so prepared themselves to meet in the fullest manner all the requirements as to pilotage in the Chesapeake, but that they have at great risk to themselves and their property been instrumental in doing great service in relieving distressed vessels from storms and other causes, and they have attached a list of the names of such vessels and times as they have thus assisted, which they pray you to take as a part of their this memorial.

List of vessels assisted by steam pilot-boat Pilot off Cape Henry.

January, 1881.—Bark Caterma Pietro, from sea to anchorage to Horse Shoe; bark Blanche, from sea to anchorage to Horse Shoe; bark New Light, from Falls Cape to Horse Shoe; bark Catardin, from sea to Horse Shoe; bark Pidetta Repetto, from sea to anchorage; ship John T. Berry, from sea to anchorage to Horse Shoe; bark Ihana, from sea to anchorage; bark Dronnigen, from sea to anchorage; bark Catherina, from sea to anchorage; ship J. C. Robinson, from sea; schooner Emerson Rokes.

February.—Bark Hecla, from sea to Horse Shoe; ship Ringspert; ship Magnolia; schooner M. W. Drew, from sea to Norfolk, in a sinking condition; ship S. Freeman, from sea to Shoe; schooner Julia, from sea to Shoe.

March.—Schooner L. S. Leavering, towed off Cape Beach to Norfolk; bark Eugena, from sea to Shoe; bark Due Cecelia, from sea to Shoe; ship Alexandrean, from sea to Shoe; bark Alice Cooper, from sea to Shoe; bark Serene, from sea to Shoe; bark F. Catermo, from sea to Shoe.

April.—Steamship Herledon, broke down, from sea to Norfolk; ship Annie Gondy, from Shoe to sea; steamship Gracia, supplied with coal; ship City Camp, from Shoe to sea; bark Tiger, from Currituck, supplied with provisions, towed to Horse Shoe; bark Elise C., from sea to Shoe; schooner G. Hall, in sinking condition, from sea to Norfolk; ship Assyrian. from sea to Shoe; bark Roma, from sea to Shoe.

May.—Bark Brothers, from Shoe to sea.

June.—Bark Certena, from off Cape Beach to Horse Shoe; ship Pereman Congress, from sea to Hampton Roads; ship Lizzie Ren, from sea to Shoe.

July.—Bark Ferga, from Shoe to sea.

August.—Brig Iris, disabled, from sea to Shoe; bark Industria, from sea to Shoe; bark Concozione, from sea to Shoe; bark Luchino, from Shoe to sea; bark Alf, from Shoe to sea.

October.—Bark Neptune, from Shoe to sea; brig Carcatello, from sea to Shoe; schooner G. H. Hoyet, sinking condition, from sea to Norfolk.

January, 1882.—Ship R. Dixon, from sea to Shoe, got orders; ship R. Dixon, from Shoe to sea, for New York; bark S. L. Campbell, from sea to Shoe.

February.—Schooner Helen, from sea to Roads, sinking condition; schooner J. M. Harkell, from sea to Norfolk. leaking; ship Serna, from sea to Norfolk; bark Kedron, from sea to Shoe.

March.—Bark Kedron, from sea to Shoe.

April.—Bark Normad, from sea to Roads, short of provisions.

May.—Ship Maryland, from sea to Shoe; bark San Carlos, from sea to Roads, short of provisions.

July.—Ship Macaulay, from sea to Shoe.

August.—Steamer Bowshen from Hog Island to Newport News, broke down.

September.—Brig Guntzia, from Shoe to sea.

November.—Schooner Daniel Gifford, from sea to Norfolk, in a sinking condition, with loss of anchor and sails.

December.—Bark Galatea, to sea from Shoe; bark Kedron, to sea from Shoe.

January. 1883—Bark Valant, from Shoe to sea.

February.—Bark A. H. Cann, from sea to Norfolk, short of provisions.

March.—Bark Francisco, from sea to Shoe.

April.—Ship Louisa Augusta, from sea to Shoe.
July.—Bark Minerva, from sea to Shoe.
August.—Bark Hilder, from sea to Shoe.
November.—Bark Constante, from sea to Shoe.

They believe they cannot present any stronger argument against the repeal of compulsory pilotage than the following, which they respectfully present to you in this memorial.

Extract from an argument delivered before a Congressional committee by R. S. Spofford, of Newburyport, Mass., against a bill for the abolition of the existing system of American pilotage.

Mr. CHAIRMAN. The proposition is too plain for argument. It would be to deny the force of your own conclusions, to be forgetful of the prime motive with which your investigations have been made, that of fostering and promoting the commercial interest of the United States, if such a measure can have our sanction and support. Were the commerce of the United States already reinstated, and in the position of pre-eminence which it formerly held; were the preponderance of tonnage engaged in carrying on that commerce now, as then, an American preponderance—under such circumstances there might be colorable argument, perhaps, that to abolish the State and municipal charges under consideration would be so far forth a measure of commercial relief. It would be colorable, merely, even then. But in the existing condition of things—our ports overshadowed by foreign flags, and with foreign tonnage so largely in excess of our own engaged in carrying on the commerce of the United States—who can deny that this measure is most baleful and suicidal in character, calculated not to foster, but still further to cripple our shipping interest, inasmuch as it would relieve all foreign vessels from the charges in question in our own ports, whilst our own vessels would continue to be subject thereto in foreign ports; and this, forsooth, for no other reason than because the provincial trade, in combination with a mere fraction of the coastwise trade, seeks to rid itself, selfishly and imprudently, of a just, beneficent, and indispensable obligation of commerce.

I have spoken, Mr. Chairman, of compulsory pilotage as a just and beneficent provision of law, and I reiterate the remark. Though it is upon this point, in the view of those who advocate a change of system, that the question turns, I have thus far not considered its merits with especial attention. Yet it is in this direction that I find the most convincing argument in favor of existing laws—that which vindicates the compulsory feature as requisite to pilotage, and as giving the vocation its highest efficiency.

Compulsory pilotage is so called because all vessels are required within certain limitations, liberal as they are known to be, to take pilot, or, in case of refusal, to pay a certain pilotage fee. This is no exceptional fact, no accidental usage merely, which sufferance has engrafted upon the pilotage code, and which is sought to be maintained to-day for no better reason than that it has existed heretofore time out of mind. Not so, indeed, Mr. Chairman. It is a provision of law, a usage, sanctioned by the experience of all great maritime states; a necessary and judicious expedient, than which none can be better adapted as matter of experience, or more justly founded as matter of principle, to give security and integrity to the pilotage system. Granted that some

scheme of pilotage is requisite for the protection of commerce, and it will put the highest statesmanship to task to suggest one better calculated to attain the ends for which it is established.

To the suggestion that it is contrary to justice to compel a person to make remuneration for a service which he has never received—the favorite argument of those who oppose compulsory pilotage—I answer, that that is by no means a precise statement of the case here in controversy; for, be it observed, whether the master takes pilot or not, there is a service rendered to him by the pilot nevertheless; he has gained security in knowledge of the pilot's presence, and the fact that his services can be had in case he shall require them in time of peril. This, in itself, would be held to be a good and valuable consideration, viewing the question even upon the narrow base to which it is confined by our opponents, that of a civil contract But, again, to pay for service not directly received, that is a fact of common and every-day experience, however unreasonable, when thus nakedly stated, it may appear. Indeed, in our relations to the Government the fact is a universal one. The judicial tribunals of the country, its public charitable institutions, its schools and colleges its diplomatic and consular systems, its offices generally—these exist, not because every individual in the community has need of them, but because all may need them; and they are requisite, therefore, to the welfare of all, and they are supported by a tax upon the community at large. Will our opponents contend that because an individual member of society has never had, and never intends to have, a case requiring the intervention of the courts, an interest abroad requiring the service of a consul, children to participate in the benefits of the public schools, or personal need of a public charity of whatever sort—that because he is thus so differently situated from his fellow-citizens, he ought not to bear his proportion of the expenses by which these, the institutions of the state, derive support? Nay, to take a case which is peculiarly in point, the light-house system of the United States is one which is a public charge, supported by appropriation from the Federal Treasury, and thus a direct burden upon all the people of all the States alike, an institution than which none could be of higher importance, or whose usefulness is more unquestionable. Now, what would be thought of the proposition if the inland States were to contend that, inasmuch as they are not concerned in commerce and have no property in ships, the light-house system is of no benefit to them and they ought not to be called upon to bear any portion of its support? Or suppose that that system were maintained, here in the United States as in some foreign countries, by taxes levied exclusively upon commerce itself in the form of light-dues, chargeable upon all vessels arriving and departing from our ports, would a pretense that no obligation should rest upon certain vessels because of their arrival in the day-time, be held a very potent argument upon which to challenge the justice of a system so generally beneficial and indispensable? And yet if there is anything in the argument of our opponents respecting compulsory pilotage, that it is a forced levy so to speak, why may that argument not be carried to this extent?

How necessary is the compulsory feature to an efficient pilotage system will be best appreciated by considering the condition of things if no such requirement were to exist. Stripped of the compulsory provision, which furnishes the best inducement capable of being furnished to make those engaged in the business of pilotage vigilant and faithful in their perilous and responsible service, that inducement combining self-interest and duty, and proceeding upon the just principle that all parties in common interest shall bear the expense of a great benefit rendered to each and

all—stripped of this provision, I say, upon what can commerce rely for assurance that its necessities will be provided for, and that, at all seasons and under all circumstances, it will be protected against the perils of the coast? It being optional with vessels, as then it would be, whether to take pilot or not, wherein would the pilot find a sufficient motive to pursue the life of toil, hardship, and danger, which all admit his to be, if it is to depend upon such hazards as that option would involve? A pilotage system presupposes constant presence and attention, in order that no vessel may fail to obtain pilotage, needing or desiring the same, nor would a system be worthy of the name which should come short of this result. Whilst under a system not mandatory, but voluntary and optional, the pilot service might be required and sought for in time of storm and peril, it would no doubt be dispensed with, in many cases, when there was no storm and no peril; and it is unreasonable to expect that a body of skilled and trustworthy men would pursue a calling requiring no inconsiderable amount of capital, and subject to constant labor and exposure, their remuneration for days and nights of incessant attention and willingness to serve depending upon their casual service on such extraordinary occasions only. Such a policy would reduce their business to a mere game of chance, contingent upon the fluctuations of the weather and the caprice of individual shipmasters, compelling the abandonment by the pilots of a vocation so precarious and perilous, and leaving commerce without any guardianship whatever in this respect.

No; it is for the common commercial good, for the common good of the country, that through all seasons of the year, whether in storm or calm, the pilot should be found within call, ready and willing to render service whenever required. Nay, compelled by law to render his service, whether it be accepted or not. Nor is it material, so far as considerations of right and public policy are concerned, whether a particular vessel, at a particular time, may or may not need the service; since if one vessel may not require it another may, and to the vessel by which it was refused on one arrival, it may become invaluable upon another. It being, then, a common good, it is but just that its support should be a common charge, and not more so in the interest of the pilots themselves than of the public whose lives and property are thus made secure.

Others have spoken of this principle of compulsory pilotage far more forcibly than I can do, and I desire in particular to call your attention to the remarks of Judge Curtis in this connection, to be found in a decision of the Supreme Court, while he was upon the bench, wherein, with his accustomed perspicuity and his unerring perception of legal proof, he states the merits of the system and the principles upon which it rests. The case is that of Cooley *v.* The Board of Wardens of the Port of Philadelphia, 12 Howard S. C. Reports, p. 153.

I quote the language of Judge Curtis, speaking for the court, as follows:

We think this particular regulation concerning half-pilotage fees is an appropriate part of a general system of regulations of this subject. Testing it by the practice of commercial states and countries legislating on this subject, we find it has usually been deemed necessary to make similar provisions. Numerous laws of this kind are cited in the learned argument of the counsel for the defendant in error; and their fitness as a part of the system of pilotage, in many places, may be inferred from their existence in so many different states and countries. Like other laws, they are framed to meet the most usual cases—*quæ re-fuentius accidunt;* they rest upon the propriety of securing lives and property exposed to the perils of a dangerous navigation, by taking on board a person peculiarly skilled to encounter or avoid them; upon the policy of discouraging commanders of vessels from refusing to receive such persons on board at the proper times and places; and upon the expediency, and even intrinsic

justice, of not suffering those who have incurred labor, and expense, and danger, to place themselves in a position to render an important service generally necessary to go unrewarded, because the master of a particular vessel either rashly refuses their proffered assistance, or, contrary to the general experience, does not need it. There are many cases in which an offer to perform, accompanied by present ability to perform, is deemed by law equivalent to performance. The laws of commercial states and countries have made an offer of pilotage service one of those cases; and we cannot pronounce a law which does this to be so far removed from the usual and fit scope of laws for the regulation of pilots and pilotage, as to be deemed, for this cause, a covert attempt to legislate upon another subject under the appearance of legislating on this one.

Here, Mr. Chairman, I should conclude my argument but for a single consideration. Thus far I have discussed the question upon its legal and public merits, not specially adverting to those whom your action immediately concerns—I mean the pilots themselves. But, sir, they have been so grossly assailed in your presence, their private character as a class having been impeached, and their vocation denounced as piracy, that I feel it my duty to say a word or two in their vindication.

When I reflect upon the character of the individuals thus assailed, and the nature of that employment so criminally stigmatized, I am confident that you will not be mistaken in your estimate of a cause which is sought thus to be sustained.

Speaking for my own section of the Atlantic seaboard, and the pilots there, I hesitate not to say that no class of citizens is held in higher esteem or deserves that esteem in ampler measure. Not ignorantly do I speak, not from report alone, but with intimate knowledge. Their lives are lives of hardship, danger, and incessant toil, in a vocation preeminently devoted to the welfare of their country and their fellow-men —hardship and danger but too little appreciated—toil whose remuneration is scant compared with that of other pursuits. Their very calling is a liberal education; for it is only to be followed successfully by the exercise of courage, self-reliance, and self-forgetfulness, the manliest of manly virtues. Perpetual benefactors as they are in the common round of every-day duty, their usefulness cannot be too highly appreciated, nor can our obligations to them be reckoned solely upon mercenary standards.

With these remarks, Mr. Chairman, I commit the question to your decision, confident alike in the cause and your disposition to do what justice requires. If the views which I have thus presented shall be permitted to prevail in the conclusion to which you arrive, all parties interested in the commerce of the country will have reason to be grateful to you. But if otherwise, and the position of our opponents shall receive your sanction, whilst of course we shall be compelled to acquiesce, you will pardon me for saying, that with the overthrow of the pilotage system, your legislation will still be incomplete. A supplementary act will be necessary to its logical and full development—one that with another blow shall annihilate the light-house system, extinguishing those flaming ministers of commerce wherever now they sentinel our rock-bound coasts. With your legislation thus perfected, and in rounded and complete proportions, if you will then seek for the results, you will not fail to find them in the spectacle of our deserted harbors—of a seaboard strewn with wrecks.

In conclusion, they would again refer to the fact of the large investment they have made in procuring a steam vessel, so that there may be the fullest service rendered to their commerce here.

And, as in duty bound, they will ever pray, &c.

JOHN H. COOPER,
President Board of Maryland Pilots.

JANUARY, 1884.

Earnings and expenses of the Association of Maryland Pilots, for 1883.

American vessels paid	$7,533 69
Foreign vessels paid	90,513 10
	98,046 79
Expenses for year	23,492 04
70 members sharing for one year each ($1,400.66)	98,046 79
Cost of steam pilot-boat Pilot	45,000 00
Sailing-boat Maryland	15,000 00
Sailing-boat Calvert	15,000 00
	75,000 00
Distance from Cape Henry to Baltimore	170 miles.
Rate per mile	2¼ cents.

WASHINGTON, D. C., *February* 20, 1884.

JOHN H. COOPER examined.

The WITNESS. The pilotage law passed by the State of Maryland in 1866 provided that all sailing vessels sailing under register, except those exclusively in the coasting trade, should take a licensed pilot; but the pilots were required to keep as many as three pilot-boats at sea, one 15 miles south of Cape Henry, one in the latitude of the cape, and one 10 miles the other way. That is the present law, and it works satisfactorily. In addition to that, our merchants requested us to substitute a steamer in lieu of one of our sailing vessels, to try it. We did so. We built a boat to use for that purpose. We run her under the Secretary of the Treasury, with the understanding that she is not to be used as a tow-boat.

Along about Cape Hatteras, in the winter time, there is great distress; and the understanding is that even if these vessels are bound to Georgetown or to Virginia, we shall tow them to an anchorage. The list of vessels assisted shows you the services that our boat performed. If you pass your bill, however, we would have to leave Cape Henry to-morrow. In ten days' time what would be the condition of things? You would have to rely on tug-men, and the consequence would be that the United States courts would hardly be able to hear all the cases that would arise.

By Mr. DINGLEY:

Question. How does it happen that on the coast of Maine, which is one of the most dangerous coasts in the country, yet, with voluntary pilotage, we have an abundant supply of the best kind of pilots?—Answer. The formation of the coast is entirely different from that of the coast south of Sandy Hook. When there is a thick fog on the coast of Maine, nobody can get in; and when it is clear I suppose anybody can get in. There are no shoals, I suppose, along there, as there are in other parts of the country.

Mr. DINGLEY. There are reefs all along the coast.

The WITNESS. I presume there are fishermen there that know all these harbors; and besides, your bays and harbors do not extend very far inland. At Baltimore we have 170 miles to go from Cape Henry in. When a tug-boat comes along, they take her for motive power; and if I see fit, and it is clear weather, I let her go ahead, and when night

comes I either go aboard the tug-boat or keep on the quarter. We don't allow any of these fifty-cent men who go and get a certificate, to pilot us.

About these coasters: We tow them into Hampton Roads for about what they would pay for the coal. Plenty of them that have tried to pilot themselves in have lost their vessels, though we make no to-do about it. According to our books we render more service than we get paid for.

Q. Your pilotage laws, I believe, except coastwise vessels?—A. Vessels under 100 tons are not required to take a pilot; those over that pay 6 cents a ton. If a coastwise vessel takes a pilot she is liable to the same charges.

There is one thing that we want to impress on the committee; and that is that if you condemn our property you should pay us for it. When our people condemned the Baltimore and Ohio and gave a charter to the Potomac Railroad Company, they paid the Baltimore and Ohio $350,000. Mr. Findlay remembers the claim that the Baltimore and Ohio had against us for giving a charter to the Potomac road.

Mr. FINDLAY. Yes; but I think that the case I mentioned the other day, of the city passenger railway line and the omnibus line, is a stronger case in point.

Mr. DINGLEY. No one proposes to condemn any property.

The WITNESS. That bill condemns ours.

Mr. DINGLEY. That is your construction of it. It does not condemn it any more than the putting on of a second line of steamers from Baltimore to Norfolk condemns the first line.

The WITNESS. That does not apply to the case. You can see how it would destroy us very rapidly. In 1883 we received at Baltimore from American vessels $7,333, and from foreign vessels $90,513. Those foreigners were some of them Italian and Norwegian vessels; and a pilot that will stay four or five days on an Italian or Norwegian steamer and pilot it 170 miles earns all he can get. The second clause of your bill would take many thousands of dollars out of that $90,000.

By Mr. HUNT:

Q. What do you collect out of the coasting steamers?—A. I can't say how much. Once in a while they take a pilot.

Q. Do they generally do so?—A. Not generally; but in the winter time they sometimes do. So far as the coasting steamer is concerned, a man might run one and not be a pilot. Take that man off that steamer and put him on board a Norwegian bark, and he would be perfectly at sea. From being on board that steamer from year to year, he gets used to her, and knows her time and what she will do; but take and put him anywhere else and he would be no more fit to act as pilot than a man in Egypt would be. I have been on board a pilot-boat ever since I was fifteen years old, and I am now fifty-five. The only man that is a pilot is a man that is trained to the work from boyhood. Anybody who says otherwise does not say correctly. I know that to be the fact.

WASHINGTON, D. C., *February* 20, 1884.

H. G. WARD examined.

The WITNESS. I represent the Maritime Exchange of the city of Philadelphia. That is an organization composed of merchants, ship-owners, and persons whose interests are of the most direct pecuniary character

in shipping. If they ask for the abolition of compulsory pilotage, and it is going to be as destructive of their property as the pilots say, they are very much misguided people. The arguments I have heard repeated in favor of that system are all drawn from and based on the safety of that very property which its owners beg and beseech the legislatures of the different States and Congress to relieve from this burden. It is incredible that if these ship-owners and merchants who live on this property, and whose property it is, do not think it necessary to avail themselves of the services of a pilot, the pilots should base an argument, in their own behalf, on the safety of that property. That argument is a very familiar one to me. It has been much used by the pilots in support of their claims for the continuance of compulsory pilotage. The pilots say that if compulsory pilotage is abolished, the whole pilotage goes by the board. Not at all. You simply remove the necessity of my paying for services that I do not want and do not ask for. In every other respect you leave it untouched. So far as the examination of pilots is concerned, and their qualifications, and the places where they are to be taken on and discharged, the whole system, in every State and port, will remain exactly what it is to-day, with that one single exception. There will always be pilots, and when they are needed they will be taken and paid for. There is no reason why that business should not be regulated like others; and if pilots cease to exist, by reason of the abolition of compulsory pilotage, it is because they are not wanted, and, if not wanted, their employment or payment is a tax on commerce. Pilots are the servants of commerce. You do not legislate for pilots, but for commerce.

By the CHAIRMAN:

Question. You would have a law regulating the qualifications of pilots?—Answer. Yes, sir; that would remain the same as it is now, by the States.

I want to call your attention to a most lamentable state of facts that is peculiar to the bay and river Delaware and the port of Philadelphia. I want to show you how compulsory pilotage laws on Delaware River and Bay have brought us to a condition of things well nigh revolutionary.

Down to 1881 there were two great ports on Delaware River and Bay. First, the Delaware Breakwater, built by the General Government as a port of call and refuge, free to the commerce of the world. Any vessel might go in there in case of a storm or to wait for orders. Then all the other shipping of that bay and river went to Philadelphia. Down to 1881 there was no pilot system on that bay and river except that of Pennsylvania. In that year Delaware, for the first time, adopted a pilot system. In the first place, they made it compulsory on vessels going in and out of the Delaware Breakwater to take pilots. When I tell you that for thirty, forty, or fifty years there had been no pilotage system there at all, I submit that the State of Delaware, in imposing a compulsory tax on vessels, really imposed a tax on the shipping of the world for the benefit of Delaware pilots. That is one of the evils that follows the passage of such compulsory laws—that just by the action of the State of Delaware the whole shipping of the world, without the slightest necessity, has been submitted to a compulsory tax at the Delaware Breakwater. The proof of that is in the fact that it never existed until 1881.

By Mr. LORE:

Q. Was not that compulsory pilotage imposed by Philadelphia?—A. No, sir.

Q. Does it not exist there now?—A. Yes; by virtue of the Delaware law, but not of Pennsylvania. The Delaware law makes it compulsory, and if a vessel refuses to take a pilot she has to pay. That is a great evil of the system. That same system that Delaware adopted—and I do not say this against Delaware at all, but merely to show that what one State has done another may do—that system if adopted by another State, and if the States should be immoderate in legislation of this kind, you would have conflict between them that would amount to actual war. In this case there has been adopted a system applicable to vessels bound to and from the port of Philadelphia, having lower rates and fewer exemptions. So that a vessel from Philadelphia exempted from pilotage fees is offered the services of a Delaware pilot, and if she does not take him she is arrested and compelled to pay. That law is in force in our own courts, sitting in Philadelphia.

This state of things has produced a feeling difficult to exaggerate. In the first place, there is the greatest possible ill-will between the pilots licensed by Philadelphia and those licensed by Delaware, and then by the merchants that trade in Philadelphia ships, and the pilots of the Delaware, and finally there is considerable feeling between the two States on account of the exercise of these sovereign powers which are inconsistent. Pennsylvania says: "Why, in my own city of Philadelphia my law is destroyed by a law of the State of Delaware."

We have gone, for relief, to court after court. We have been to the district court of Delaware, and of Philadelphia; to the United States circuit court of the third circuit, and twice to the Supreme Court of the United States. In every one of these cases they refer us to Congress. They say they deplore the condition of things but cannot help us, and that our relief is in Congress.

I ask your attention to the fact of how much worse this thing might be if Delaware had passed a more inconsistent law than she has done. I cite to you the condition of other States situated like Delaware. Suppose Saint Louis were to pass a pilotage law applicable to the port of New Orleans, and enforce it. Suppose the same thing were done on the Chesapeake Bay, or the Ohio River; if New Orleans were to say, 'We don't think any system of compulsory pilotage necessary," but Saint Louis were to say, "We do think such a system necessary, and if you do not want our pilots, you will have to pay." There is, as I have said, a great deal of ill-will existing, caused by these compulsory pilotage laws.

I am instructed by the Maritime Exchange of Philadelphia to say that they favor Senator Hale's bill, and if that bill, altogether abolishing compulsory pilotage, be not passed, then that they favor Mr. Dingley's bill, because they would rather have half a loaf than no bread.

I want to point out, for Mr. Dingley's consideration, for I know he has paid great attention to this matter, a point that has occurred to me. By the first section of his bill it is provided that the United States inspectors may appoint pilots for steam vessels on the same principle as for sailing vessels. Section 4444 of the Revised Statutes provides that those pilots can only be appointed for coastwise steamers. Therefore, all vessels employed in the foreign trade would be exempted from the privilege conferred by Mr. Dingley's bill.

Another point: It has been decided in Georgia that a license granted to a coastwise steamer in one district will not be good anywhere else. A sailing vessel traveling from port to port would therefore have to get a license from each district. That is perhaps a point worth thinking about.

Mr. DINGLEY. The principle on which the United States steamboat law proceeds is to examine and license a pilot for a particular port or ports.

Mr. WARD. Yes.

Mr. DINGLEY. The license states the particular port or ports for which he is to be pilot. You coul dnot examined a man for all the ports of this country. There would be too many points to be covered. The license must specify. The principle of the steamboat law is simply considered in this section. For example, it will apply mainly to this class of vessels. There is a large class of vessels that are in regular trade from one port to another, as a rule, or run as a rule only from one or two ports, and the master or mate would be examine as pilot for that particular port or ports—applying precisely the same principle to sailing vessels as to coasting steamers. I understand very well that it is limited; at the same time, under all the circumstances, it would be better than nothing. It only extends to sailing vessels a principle which we have found to work well with sailing vessels. That is all we propose to do. Your suggestion, of course, goes farther than that. I did not intend to go farther, as we had tested the principle as to coasting steamers, and I could see no reason why the same principle could not apply to coasting sailing vessels, as between Baltimore and Charleston, for instance. That is, that as between Baltimore and Charleston the master or mate might be examined and licensed as a pilot between those two ports, and not be required to take compulsory pilotage. That is the principle.

The WITNESS. In conclusion, I want to call attention to the underwriters' business. That is a contractual business, regulated by the amount of premium they charge. If this were to increase the risk on shipping property (as their only object is to get a fair premium), they would raise the premium. That would be the only difference to them. But to the owners, if the risk were increased, it would involve the payment of a higher premium.

Adjourned.

WASHINGTON, D. C., *February* 21, 1884.

The committee met at 10 a. m.

HERBERT A. DEAN recalled and further examined.

The WITNESS. As I stated to the committee yesterday, I appear more particularly for the shipping interests of Taunton, Mass. I am here also to-day on behalf of the Boston ship-owners. Our class of vessels are engaged to a great extent in the coastwise business. We have fifty vessels, mostly three-masted schooners, of from five hundred to eighteen hundred tons burden. We are carrying coal to-day from New York and vicinity to Boston for 90 cents a ton, and from Baltimore to Boston for $1.40 a ton. Before the war the average price was $2.50 a ton. We are carrying hard pine lumber from Florida to Philadelphia for $5 a thousand, and cotton from Charleston to New England ports for $1 a bale. We have to come in competition with the class of steamers engaged in the same business; and if, in the wisdom of your committee, you cannot see your way to giving us what we ask for, or what Governor Dingley proposes in his bill in regard to the matter of pilotage, we would respectfully ask that you report such a bill as may relieve the American shipping engaged in the coastwise trade—or in other words allow us to be on the same footing upon which the American steamer stands.

By Mr. LONG:

Question. In the coastwise trade?—Answer. In the coastwise trade. There are many things that I could say in contradiction to what was told you yesterday, but we do not come here to attack any one—to attack the pilots or their system. We have told you that it is useless, so far as our line of trade goes. We have applied to Congress to have the pilotage law repealed or fixed in some way, and we have decided that we would do no more about it, but simply pay the pilots, although, as we have told you, we do not require their services. They are of no use to us. We simply allow the thing to go on because there is a law which we cannot get over. But we are very glad that the country has awakened to the fact that American shipping must be relieved. When you gave us an opportunity to come here and say what we had to say we came, and we are much obliged to the committee for the privilege.

If you cannot report the bill drawn by Mr. Dingley, as I have said, we hope you will consider those of us that are engaged in the American coastwise business and give the same relief as steamers in the coastwise business now have.

Q. Do you never employ pilots?—A. No, sir. There are fifty vessels, more or less, that are owned by Taunton capitalists or skippers, or whatever they may be termed, and we very rarely have a pilot. We employ pilots more in sending our vessels to Maine and going over the Nantucket Shoals than anywhere else. There is no compulsory pilotage for the coastwise vessels in going over Nantucket Shoals, and since compulsory pilotage has been abolished there we have had no trouble whatever in having pilots to carry our vessels of more than 1,900 tons over the Nantucket Shoals with a draught of water greater than 19 feet.

By Mr. DEUSTER:

Q. Do you carry passengers?—A. No, sir.

Q. Your vessels are sailing vessels?—A. Yes; mostly three-masted schooners. We built them in such way and have such improvements in the sails and rigging and the process of getting their anchors that we we can carry this freight from one part of the country to another. We say this to you to show you that we are doing something for the country. We are carrying these different kinds of merchandise at extremely low rates; therefore we would like you to relieve us from these unnecessary burdens placed upon us.

Q. How much is the charge for pilotage?—A. If we have a vessel in Boston that is going to Kennebec River for ice we can employ a pilot to take her down at different prices. There are a good many men there. It is open to competition. We pay from ten to fifteen dollars to take her down. From Vineyard Harbor to Boston, about 100 miles, we pay generally from $20 to $25 for the larger class of vessels; and we never had any trouble in obtaining a pilot to go over the Nantucket Shoals, which is a very dangerous place. If we could have compulsory pilotage abolished there would be no trouble in obtaining a class of men that are entirely competent to take our vessels in and out of any port on the American coast.

ELBRIDGE G. MARTIN examined.

The WITNESS. A statement has been made here in regard to the pilotage system of Portland—as to the fact of there being no compulsory law in the State of Maine. It is true there is no compulsory law in that State; but in 1865 the Allan steamship Bohemian, from Liverpool to Portland, came on to the coast of Maine off Portland Harbor, in the afternoon.

The weather was thick. The steamship was obliged, on account of there being no system of pilotage there, to lie off the port that night. The next day scaled up a little, and the captain attempted to perform his own pilotage. He struck a rock off Portland Harbor and sunk immediately, and sixty people were drowned in the rigging of that vessel in sight of the inhabitants on shore. So much for that system. Since that time the steamships of that port have appointed two pilots to look after their vessels at all times. A company there employed a stevedore for pilot duty on a certain line of ships, because they thought the charges of the pilots were exorbitant. He had the sum of $1,800 a year to perform the piloting of their ships. In leaving the harbor of Portland the stevedore struck the ship on a reef, and the resulting damage was three or four hundred thousand dollars to ship and cargo. So that if there is no compulsory system in the State of Maine, I do not think that that is a very effectual argument against the system generally on the Atlantic coast. Great stress has been laid on the ability of these steam-tugs to perform this serviee. Let me say that there is no liability on the part of a steamboat, so far as damage accrues, to perform her service, more than this: When a vessel is in anchorage in Boston she employs a tug to dock her from her anchorage in the stream. Should any damage occur from carelessness of the tug she is obliged to make that damage good; but so far as the towage to or from sea is concerned she is not liable in any particular. It has been stated here that the State pilots are under $1,000 bonds for the performance of their duties. That is true. That is merely a guarantee of their competency to perform their business. The liability of tugs is nothing. To show you how far they are liable, the ship P. M. Blanchard was off Cape Cod, and a pilot put on board. She proceeded half way up Boston Bay, and the wind died out. A steam-tug, one of the most able in Boston Harbor, approached her, and a bargain was made for the tug to take her to Boston for $75. The sails were immediately furled, and the tug took the hawser and started for Boston. When they had gone about five miles a violent breeze sprang up. The sails, which had been wet from the rain, froze to the yards; but it turned out that the tug was incapable of performing her duty. She slipped the hawser and left the ship there to the mercy of the elements, with the sails in that frozen condition; and it took hours to get them properly set, so that it was two days afterward before the ship approached Boston, which she did in charge of her pilot. The tug had come in. So much for the ability of the tug-boat.

By Mr. LONG:

Q. Was there a pilot on board all the time?—A. Yes, sir.

Q. Then it made no difference?—A. There was a Boston pilot on board to take charge of the ship. I mentioned that to show the ability of these tugs, which had been so much praised. When an emergency arises so that the tug is not capable of performing her duty, she simply leaves the ship to take care of her own salvation and stalks in shore. In respect to the sea-going quality of tugs, I think the pilots are as good judges of that as any one can be. These tugs are built with low hulls, and with houses on deck, one above the other, made of thin boards. They extend nearly all along the top of the vessel, and the top of the upper one of these houses is about 11 to 12 feet from the deck—substantially the same kind of a house as was on the top of the Columbus. The moment a sea strikes it over it goes. I have spoken of Boston Bay, and I want to add that it is the most dangerous location in the world. It is in the shape of a tunnel, so to speak and the further a vessel goes

into it the greater the damage; consequently, the more necessity for a pilot. We (the pilots) have eight boats worth from $10,000 to $12,000.

By Mr. HUNT:

Q. Ten thousand dollars to twelve thousand dollars apiece?—A. Apiece. They average about 1,000 tons burden, and are built with flush decks, specially strong, and designed to lie out in all sorts of winter weather.

The counsel of the New England Shipowners' Association, who appeared before you a short time ago, was formerly counsel for the Boston pilots, and I would like to read you some little extracts from a pamphlet I have.

Q. To whom do you refer?—A. Mr. J. B. Richardson, who represented the Boston pilots for several years, and now represents the New England Shipowners' Association.

A. VOICE. He became converted.

The WITNESS. I suppose so. There was no necessity for his conversion, however. I will read you an extract from his pamphlet published in behalf of the Boston pilots, when he was our counsel.

By Mr. DINGLEY:

Q. What is the date of that?—A. 1870. He says:

This system has grown up with commerce, and it is believed exists in every frequented port in Christendom to such an extent as to have become a well-recognized element in general maritime laws of nations; and in all these laws and regulations of so many States and countries the system has been maintained with and upon this feature of compensation for pilotage services offered, which is not a penalty, or in the nature of a penalty, but it is the reward offered for diligence, promptness, and skill, and rests upon the expediency and even intrinsic justice of not suffering those who have incurred labor and expense and danger to place themselves in a position to render important services to go unrewarded because the master of a particular vessel either rashly refuses their proffered assistance, or, "contrary to the general experience," does not need it.

The pamphlet closes in this vigorous and convincing language:

The pilotage regulations now in force in the different States of the Union have been in existence for more than half a century, and in several a much longer period; many of them have received the construction of various courts, have become understood and known, and interwoven with other regulations pertaining to their harbors and shipping; and it is submitted, with confidence, that no reason does exist why these regulations should now be abolished or disturbed, bringing uncertainty for certainty, complexity and confusion for harmony, deserting what has been tried and approved for an experiment.

I do not know that I could use any language of my own to convey the substance of our argument in any better shape than it has been already put in the language quoted from the counsel for the New England Shipowners' Association.

In 1874 the Boston Marine Society and the officers of thirteen insurance companies in the State issued a circular verified by Capt. Eben Howes, in favor of compulsory pilotage:

Compulsory pilotage, wherever established, has been the result of earnest thought by enlightened practical men, looking to the claims of humanity and advancement of commerce. Its opponents, in Great Britain as in this country, have so far made little progress, notwithstanding their efforts to enlist the cupidity of shipowners and secure in their behalf the ablest legal and legislative influence. That this law in its action has produced a body of men, hardy, energetic, resolute, and daring, with whose skill and care life and property can be safely trusted in its ingress and egress to and from the dangerous intricacies of our waters, is most certainly cause of satisfaction; and the fact that its annulment would be ruinous to them, should, with equal certainty, be cause for thorough and impartial deliberation. The abolition of compulsory pilotage would bring to the business men reckless, incompetent, unscrupulous, and exacting, who, when most needed, would be least likely to be found, and whose charges would be graduated by the necessities of the case.

Speaking of compulsory pilotage, I would like to read to the committee the observations of an intelligent English writer on this question He says:

Free piloting would lead to wrecking. It may be said, let the shipowners pay more highly when *nature* and not the pilotage authorities compels them to take a pilot and exempt themselves when nature permits them. The suggestion looks fair, but it will not bear examination. It introduces the principle of paying, not for a regular, but for an occasional service; not for a common requirement, but for special aid—probably a most mischievous change of policy.

To apply this principle fairly, the charge must obviously be graduated according to the value of the service rendered, to the danger in view at the time, and to the value of the property involved; and this with reference not only to the question whether there is or is not special risk, but also to the further question, What was the intensity of the risk? and that as well to the pilot rendering the service as to the property receiving it. This method, therefore, drifts directly and inevitably into "salvage"—into making a market of the perils of the port instead of forestalling and preventing them.

In every other department of human skill the ultimate tendency is, as it very properly has been in this, to make a common provision for common wants, and to reduce the individual charge to an average, determined by the cost of the entire service and the number of those who require it. It is on this principle that each of a thousand customers is better supplied, at a given price, than each of a hundred, and each of a million better than each of a thousand.

Introduce into any occupation the element of uncertainty as regards the regularity of employment, or the rate of pay when employed, and you necessarily and justly enhance in proportion the cost of a given service when rendered to an employer; but this is far from being the most serious aspect of the proposed change.

Wrecking, like smuggling and poaching, is but a venial offense in the code of untutored humanity; and the salvage law of our admiralty courts leans ever the same way. Let a ship be once drawn or driven into imminent peril, and a third of the whole value at stake is the pretty sure reward of her rescuer. The evidence basing the claim is always strong, and that for the defense is always weak; for who can bear witness to the peril but those who have been at hand and have shared it? And seldom does an on-looker stand by to witness merely. He is far more likely to fall in with the claimants. And how awkward and ungracious the task of proving that to take you out of danger was a trifling service! As to the crew of the rescued ship, if they survive, they have no interest in making light of what they have gone through; and they are accustomed to see whatever they swear to admitted. In practice you may almost as well impeach Holy Writ as deny the truth of a protest. Those who think the practices here alluded to as probable, extremely unlikely to be resorted to in the port of Liverpool, can be but ill acquainted with the experience of its shipowners. Thus, when to get a ship out of danger, or to keep her out of it, shall be made optional, the choice will soon come to depend mainly on the presence of the needful danger. If present, it will be too tempting a source of profit to be neglected.

When danger shall be present a captain will probably find it much easier to see a pilot-boat than to get the pilot to see his ship, until, indeed, the needful danger shall be fairly incur d.

Nor let it be supposed that to prohibit the receipt of salvage rewards by pilots would prevent this. The usual and most natural salvors of ships in danger now are our steam-tugs. Pilots have been suspected of misdoing or neglecting their duty in order to throw profitable jobs in the way of these salvors; and it has actually been deemed necessary to forbid any pilot to own shares in a steam-tug.

The imputation may be unjust; but there are many ways of sharing the profits of a nefarious adventure with the man who initiates it. And, if it be desired to open wide the door to induced or intentional wreckage off the Mersey, there is no way so promising as that which shall leave half the pilots, in fine weather, without pay, and in that state in which it is said that Satan most readily guides men to mischief.

By Mr. HUNT:

Q. What publication is that you read from?—A. That is the argument of the Hon. Charles J. Noyes before the joint committee on mercantile affairs of the legislature of Massachusetts, in 1883, on the Massachusetts pilotage system.

Q. Can you give that to us?—A. Yes, sir.

By Mr. LONG:

Q. In the case of the wrecked Bohemian there was no pilot at all on board, I believe?—A. No, sir; it was an English ship.

Q. And no tug?—A. No, sir.

Q. Then that would not be a case within the line of consideration on this subject?—A. I was speaking of compulsory pilotage.

Q. Do you know of instances where there have been wrecks in which the United States licensed pilots have been employed?—A. No, sir. I don't know of any.

Q. Do you know of wrecks where State pilots have been on board?—A. No, sir.

Q. There have been instances both ways given to us by parties from New York?—A. Well, sir, of course we are not infallible, but we can point to our record. The record of the Boston pilots is that in all these years not a life has been lost in a vessel under their charge. If the opponents of pilotage can furnish any better record than that I would like to see it.

Q. I dare say that has been the case also with vessels which were in charge of steam-tugs. Have any of your pilots run ships ashore?—A. Yes, sir.

Q. But lost no lives?—A. No, sir. I have seen tugs run vessels ashore many a time, but I could not say that the damage was material.

Q. With regard to these tug-boats that are unseaworthy or unfitted for heavy water, there are some that are fit, are there not—some that go to Charleston and Savannah and some that go across the water?—A. They go along the coast; and they harbor every night.

Q. The coast is most dangerous, is it not?—A. Well, some of these pilots, of course, are more or less acquainted with the coast.

Q. You do not mean to say that some of these steam-tugs are not seaworthy and good enough to go to the ocean?—A. I mean to say that they are not fitted to perform the duties of pilots when they are most needed.

Q. You do not mean to say that there are not some of these tugs that are fit to go to sea?—A. I do say they are not fit.

Q. How about the Storm King?—A. I say she is not fit to go to sea

Q. Some people have said some of these tugs have been sent for to go to sea and tow vessels long distances?—A. They dare not go in the winter time; in summer time they might go, when an old lady might go—when the wind and water are at a calm. When the wind blows 12 or 15 miles an hour they couldn't go to windward, and when a vessel can be handled more safely under her own canvas these tugs are useless. In fact, they never go out. They go to town every night. They are housed in bad weather, when the pilots are attending to their watch day and night, year in and year out.

By Mr. HUNT:

Q. I would like to ask whether, as a matter of fact, the cases show that towage often grows into salvage?—A. Yes, sir, it does.

Q. Is it not impossible to avoid the frequent happening of that?—A. It is.

By Mr. LONG:

Q. What cases of that character have you known during the past year in Boston?—A. I could not speak of any in the past year particularly.

Q. Well, the year before?—A. I recollect the case of a barkentine coming into Boston Bay and a tug went to her and was employed, and in towing her in, while the sails were furled and the tug handling the vessel, the vessel drifted almost into the breakers; both anchors were

let go, and the tug skulked off and left her, after having made a bargain to take her into Boston.

Q. Is that the one you spoke of a few moments ago?—A. No, sir. The tug went in and they employed another tug belonging to the same corporation, and the last tug made a case of salvage out of it before the courts.

By Mr. HUNT:

Q. Did they recover for salvage?—A. I think it was finally settled for about $2,500.

By Mr. LONG:

Q. When was that?—A. About two years ago. I could not tell the exact time.

Q. There was no pilot on board?—A. No, sir; there was no pilot on board.

These tugs in Boston Harbor draw on an average something like eight feet draught. The tug-boat captains are licensed to pilot their boats in and out of Massachusetts Bay. They are not qualified, and it was never intended that they should be pilots of vessels.

In regard to their responsibility, they have none, as I have already stated. I defy any man to produce any evidence that these tugs are in the least responsible when they are towing a vessel other than towing from the stream into the dock.

By Mr. HUNT:

Q. You mean they are liable, but not responsible?

Mr. LONG. No; he means that they are not responsible in law.

A. There is no question ever entertained about it.

Mr. HUNT. Well, on that subject we would rather hear gentlemen who have studied law.

The WITNESS. I say there has never been any provision, in any way or shape.

Q. No statutory law?—A. No; no agreement on the part of the company towing. They have in Boston a company that has fourteen steamers, and it was stated that the company was made up in the hope that this compulsory pilotage would be abolished.

By Mr. LONG:

Q. How much capital does that company or association represent?—A. I could not say.

Q. A good deal?—A. Yes, sir.

Q. A million dollars?—A. I should say not.

Q. A half million?—A. It might probably be so much, but I should say that would be rather large.

Q. That is a pretty good amount to look to in case of damage, is it not?—A. They are not liable, and nobody can collect it from them. They haven't paid a dollar for damages in their lives. I defy any one to show that they have.

Mr. LONG. Perhaps they have not done any damage.

The WITNESS. They have done some. It has been stated here before this committee that the tugs generally get to a vessel before the pilots come.

Mr. LONG. Yes, that has been stated.

The WITNESS. I desire to refute that statement most emphatically. We have a station point at Cape Cod, and most of the sailing vessels coming to Boston pass by that point. That boat is on duty there most

of the time when it is practicable to live there; and vessels are boarded there to a great extent. It is only one case in ten—and that is a large allowance—when the tug gets to the ship before the pilot. In fact, the first question a tug asks a captain is, "Have you a pilot on board?"

By Mr. HUNT:

Q. Do these pilots make much money; do they ever get rich?—A. No, sir. In Boston the average income of each man last year was $1,400, and the average income or amount for the last ten years would not be more than $1,000. Our business was paid principally by British steamships; $106,000 was the amount paid last year for Boston pilots, and of this amount $87,000 was paid by British and other foreign vessels.

By Mr. LONG:

Q. Then this bill would only take off about ten or twelve thousand dollars from your income?—A. The sailing vessels coming to the port of Boston amount in pilot fees to about $44,000 a year. This bill would practically wipe out a great portion of that.

By Mr. DINGLEY:

Q. You mean you would not need so many pilots in that case?—A. I think the association which controls this matter in the different States has a perfect knowledge of the business.

Mr. DINGLEY. But, of course, if the business was reduced a less number of pilots would do?

The WITNESS. Which portion of the pilots would you take off?

Mr. DINGLEY. It is like any other business; when too many men go into it and they find that they cannot make a living out of it, they find occupation elsewhere.

The WITNESS. But you don't compare the pilotage business with the business of lawyers and such people on shore?

Mr. DINGLEY. Masters of vessels in the American merchant marine have to go into other business when it is found that there are too many of them in the shipping line.

The WITNESS. Well, it is a great subject when you come to talk about it—the decline of the American merchant marine.

Mr. DINGLEY. But I am only showing that we have not passed any law to protect the masters of American vessels; we have not passed any law compelling anybody to employ American shipmasters.

The WITNESS. Well, the pilots did not make the law. The merchants of our country made the law. The pilots, however, have been educated to this system.

By Mr. LONG:

Q. But if compulsory pilotage were dispensed with, the pilots would not be compelled to go to sea, would they?—A. They would be compelled to, or give up their business—and they haven't any other business.

Q. I think you said that the gross receipts at Boston for pilotage was $106,000 last year?—A. Yes, sir.

Q. Of which $80,000 came from foreign steamers?—A. From foreign vessels. I said $60,000 was paid by foreign steamers—English steamers. It seems that, notwithstanding the American merchant marine has been driven so much from the ocean, vessels are building all the time. The low freights come because the supply exceeds the demand.

Q. You are a fair man, Mr. Martin, and of course we want to get at both sides of this question. What do you say to Captain Dean's state-

ment that the vessels are subject to great hardship in this matter. He and his class of men want to find some relief. He says he has fifty vessels, and that they are subjected to a great tax in this matter. What can we do to relieve him and at the same time be just to you?—A. So far as I am concerned individually, they do not bring much business to us. It has been the boast of the Taunton parties that their business pays from 20 to 30 per cent. a year, and certainly the trifling charge paid to the pilots would not eat them up. They are increasing in number every year. I am well acquainted with parties there. Notwithstanding the depression in the carrying trade, they are still building ships all the time, and their vessels pay, as I say, from 20 to 30 per cent. a year. I have it from a man interested in that business.

By Mr. DEUSTER:

Q. There is no compulsory pilotage on the great lakes. Is it more difficult to sail a vessel, either a steamer or a sailing vessel, in the coastwise trade than on these great lakes?—A. So far as the lake navigation is concerned, I am entirely unfamiliar with it. I should not like to make any statement that the facts would not warrant.

Mr. HUNT. Has not the loss of life and property been immense on the great lakes?

Mr. DEUSTER. Not so very large; but of course we have losses there, because it is dangerous work.

By Mr. DINGLEY:

Q. Are you familiar with the pilots on the coast of Maine?—A. No, sir; I am not familiar with them, any more than I know that they have no compulsory law there.

Q. How is it about the efficiency of our pilots on the coast of Maine?—A. I think that so far as steamship pilots are concerned, who perform that service for the Allen line into Portland, they are efficient men—so far as I know.

Q. So far as you know there is no difficulty in finding efficient pilots—a number of them?—A. Not since the Bohemian was wrecked there; I think the people of Maine woke up to the importance of it then.

Q. That has been settled by the law of supply and demand, has it not? We have no compulsory pilotage. You said a few moments ago that unless there was compulsory pilotage the pilotage system would be destroyed and that there could not be enough pilots found. Has that been the fact on the coast of Maine, where there is no compulsory system?—A. I say the reason why they have pilots there is because they consider that human life is too sacred to be tampered with.

Q. Is not that a consideration that will act everywhere?—A. No, sir; I don't think it will. I think that if this pilotage business is opened up to the law of supply and demand, as you say, then in the summer time we will receive no encouragement for our boats, and when the time comes in winter that pilots are a necessity to all—when they are most needed—they will be least to be found.

Q. That is a theory; but practically does it work so? Has it worked so on the coast of Maine?—A. I won't say that it has.

Mr. DINGLEY. We can test things much better by what has been practically done than we can by theories.

The WITNESS. The practical test is in New York, Boston and Baltimore, where they have efficient systems—not a place where they have none.

Mr. DINGLEY. But you say that if compulsory pilotage is to be

abolished, it will destroy the pilotage system and there will not be a sufficient number of pilots.

The WITNESS. I did not say that.

Mr. DINGLEY. I understood you to say that, and use that as an argument against a change in the law.

The WITNESS. I said it would destroy the efficiency of the system.

Q. Now, I ask you, as a fact, with regard to the coast of Maine, which is as dangerous a one as is in the country—is it a fact that the abolition of compulsory pilotage has worked the results which you say will come from the abolition of compulsory pilotage? On the contrary, is it not a fact that we have a sufficient number of pilots and as efficient pilots as any country in the world?—A. No, sir; it is not a fact.

Mr. DINGLEY. Well, I did not know that. I had not heard that stated.

By Mr. HUNT:

Q. I want some information on that subject. What are your reasons for making that answer?—A. I will read to you a statement made by the Hon. A. B. Coffin, of Boston, on behalf of the Boston pilots before a committee of the Massachusetts legislature in 1882, in regard to pilotage in Bangor:

A Bangor gentleman conceived the brilliant idea of sending here a letter, comparing the pilot system of Bangor with that of New York, with a view of showing the superior excellence of the former. Surely, the Maine men who stay at home do not lack assurance. This letter is decidedly amusing in the light of the evidence before you; that a foreign vessel, only last summer, after waiting in vain three days with her signal set for a Bangor pilot, was obliged to come to Boston for a coast pilot, who took the vessel to Bangor, the port blessed with the model system and model pilots.

By Mr. DINGLEY:

Q. What was the name of that vessel, and when did that happen?—A. The name was not stated, but I think I could find out.

Mr. DINGLEY. I wish you would find the name of the vessel and the time of the occurrence.

The WITNESS. Yes, sir. The statement is made by Mr. A. B. Coffin, whose name I think is sufficient to establish the truth of any statement made in his argument.

I would state to the committee also that the parties in Boston, as a general thing, take very little interest in this matter—that the matter has been wholly forced upon their notice by the firm of John S. Emery & Co. They have battled with the pilots of Massachusetts for twenty-five years; and when our commerce was in its prime and American vessels flooded the ocean, the merchants of Boston never came to the legislature to aid any efforts of theirs to reduce our system. But since that time our commerce has deteriorated, and English steamships do all our business. In 1872 the pilotage fees of sailing vessels going into the port of Boston amounted to $98,000, and steam vessels, $7,725. In 1883 English steamers paid $60,000 and sailing vessels $46,000. So that you can see that the whole system of the carrying trade has been revolutionized.

By Mr. LONG:

Q. Of that $46,000 how much came from American steamers engaged in the foreign trade?—A. I could not state exactly. There were two or three steamers carrying fruit, and the pilotage was immaterial.

By Mr. DINGLEY:

Q. That is, that $60,000 is almost entirely foreign?—A. Yes, sir; that $60,000 is paid entirely by English vessels.

Q. And I think you stated what proportion of that $60,000 was foreign steamers?—A. The whole of that came from foreign steamers. American vessels paid $19,000 to the support of the system in Boston.

Q. That represents the American vessels in the foreign trade?—A. Yes, sir.

Q. I believe your law exempts coastwise vessels from compulsory pilotage?—A. Yes, sir.

By Mr. HUNT:

Q. Well, do the coastwise vessels take the pilots?—A. Yes, sir.

Q. As matter of fact, notwithstanding the legal exemption, what is the practice, that is what I want to know?—A. I could not say that the practice was that they generally took pilots, but in cases of emergency they take them. I recollect one instance—the case of the schooner B. H. Hall, whose captain is a man very familiar with our bay. He came into the bay, and my boat was there; he set a flag in his rigging; he was from Baltimore, and had a load of coal; the boat proceeded to him, and by the time she got to him it was thick with snow. He asked the pilot what it would cost to take him to Boston, and the pilot told him. The captain said he thought the amount was rather high, but the pilot told him he could not take him for less than the regular amount. But the captain said he would pay it rather than delay, and the pilot took him in. The probability was, really, that if he hadn't taken the pilot on such a night as that turned out to be he might have found himself in the morning "with sand in his ears," as we say.

Q. Does this system of non-compulsory pilotage and license, provided for coastwise steam vessels under a late act of the United States, provide for a system of pilots who are adequate in emergencies of wind and water and vicissitudes such as a vessel is liable to on coming into Boston harbor?—A. No, sir; it does not.

Q. As a matter of fact, does it make adequate and satisfactory provision and furnish skilled men who are competent to take charge of property and life in emergencies?—A. No, sir.

By Mr. LONG:

Q. How can you reconcile that argument with the statement made a minute ago, that you did not know of any case where life had been lost or serious damage done; and is not that the best answer to the question?

Mr. HUNT. I only wanted to know the facts.

Mr. DINGLEY. That is, you want to know his opinion.

Mr. HUNT. No. I want to know the facts if they can be got from testimony. I want to know if this system furnishes skilled men able to meet any vicissitudes, and able to take charge of vessels under all circumstances.

Mr. DINGLEY. Your question refers to coastwise steam vessels?

Mr. HUNT. I ask, does the legislation of the United States, which it is sought in your bill to imitate, furnish a class of men who will dispense with the regular pilots?

The WITNESS. No, sir.

By Mr. DEUSTER:

Q. How would it affect the pilots if pilotage were made compulsory for any vessel carrying passengers, and not compulsory for vessels carrying freight only; how would such a law strike you, as a representative of the pilots?—A. That is a question that it is difficult for me to answer without some thought on the matter. In regard to this pilot-

age law, the line has got to be drawn somewhere. This matter has been delegated to the several States. In speaking of the law I speak in regard to Massachusetts. This pilotage law has been deemed a necessity. The merchants framed it. The pilots were but the humble instruments of the law, to carry out its provisions. The law says that all vessels sailing under a register shall be liable to pilotage—that is, all vessels over 200 tons shall be liable to pay the whole pilotage, and little coasting vessels, under 200 tons, half pilotage. This law has been made general, so that it shall bear equitably upon all. There is not a law under the heavens that does not bear with more hardship, perhaps, upon our class than upon another. For instance, take the law of taxation in our city; the public schools have to be maintained, and I may be worth a million dollars without a chick or child in the world, and I am taxed for the support of public schools. You may be a poor man with six children, and you pay simply a poll tax, and your children have the benefits of the improvements and aids to education which these schools afford. I receive no substantial benefit, however.

Q. Then you would consider this pilotage a tax on vessels?—A. Well, it is a tax on vessels.

Q. On the whole—whether they carry passengers or freight?—A. Yes. The insurance policies will take care of the property, but there is nothing to take care of human life any better than the provision made for it in the pilotage laws of the State.

Mr. DINGLEY. That is a statement you make—that the insurance policies will take care of the property, and that pilotage has reference to protection of life.

The WITNESS. Life and property.

Mr. DINGLEY. Now, I want some information on that point. Suppose that pilotage should be rendered non-compulsory as to vessels not having passengers.

The WITNESS. Then are not the lives of the crew to be considered at all in this matter?

Mr. DINGLEY. Of course. But you know the primary object of compulsory pilotage—the principle that led first to its adoption was that of the protection of the lives of passengers.

The WITNESS. On steamships?

Mr. DINGLEY. No; on sailing vessels, because there were no steamships then. That was the object. But now no passengers are conveyed on sailing vessels.

The WITNESS. Well, I think that on the establishment of compulsory pilotage 100 years ago, there was not such a large number of passengers transported across the ocean, if I can judge by reading history.

By Mr. DINGLEY:

Q. Let me ask you now on that point, partly for information, this question. The original pilotage law of Massachusetts—that on which you acted until a few years ago—made pilotage compulsory as to enrolled and licensed vessels as well as to registered vessels; and that was changed so as to exempt coastwise vessels from the compulsion to take a pilot, was it not?—A. Yes, sir.

Q. So that the law has been changed, and in the way you speak of, and changed for the reason that the sailing vessels in the coastwise trade do not carry passengers; is not that the fact?—A. I don't know that it was changed on that ground, but it was changed, nevertheless.

Q. And do you not think on the whole, that the exemption of sailing vessels in the coastwise trade from compulsory pilotage has worked no

harm to the pilots?—A. Well; I do not know. The rates of pilotage were increased at that time by common consent.

Q. This applies only to Massachusetts, you know. Other States have compulsory pilotage laws?—A. Yes, sir; it seems that the general agitation has to come from Massachusetts—that is, most of the statements, and the hardest statements in regard to compulsory pilotage, seem to come from Massachusetts; and, as I am from there, I will take the question from that standpoint.

Q. I would like you to answer as to that point first, as to whether or no the abolition of compulsory pilotage on the coastwise trade has really worked any harm to the pilots of Massachusetts?—A. I can best answer that question by stating my position. My position is this: that the pilot system along our seaboard cannot be maintained except on broad principles and liberal laws.

Mr. DINGLEY. Let us now confine ourselves to the State of Massachusetts.

The WITNESS. Yes, sir; I will do that. I make the statement that the pilots of Boston will not be found on duty as efficiently as they are at this time unless they are protected by ample legislation—by liberal laws.

Q. And your legislation in Massachusetts protects, does it?—A. Well, at any rate, there is no encouragement in a law which will deprive us of a certain portion of our living, and allow us to lie out there on a stormy night and come to Mr. Emery's vessel in the morning, when, perhaps, the weather has cleared off, and be refused service simply because the law has been changed so that the vessel is not liable to take us. I say that when the law is repealed, and night comes on and things look nasty, the pilots are going to skulk; and when they are wanted they won't be found.

Mr. DINGLEY. But I do not understand that there is any skulking now in Massachusetts.

The WITNESS. I mean to say the pilots are doing their full duty, and always have.

Q. And yet coastwise sailing vessels are exempted from compulsory pilotage?—A. Yes. Recollect, however, that a coasting vessel is always in a harbor at certain times, and has to skulk from Vineyard Haven and around there, and watch his chance to get in.

Q. Then according to your idea, there is no object in making pilotage compulsory in regard to sailing vessels in the coastwise trade?—A. I don't say anything about it. You are confining it to a Boston boat now.

Mr. DINGLEY. No; I am trying to ascertain whether or no a general exemption from compulsory pilotage throughout the country would work any harm to pilots, and whether it has done so in Massachusetts.

The WITNESS. You are confining your question to Massachusetts Bay, and as this law does not apply to Massachusetts Bay, I don't know that I should answer for the other ports of the Atlantic coast.

Mr. HUNT. I understand the witness to say that it would, as it is described to be on the coast of Bangor, where a vessel had to wait two or three days for a pilot.

Mr. DINGLEY. What I understand is this: that the pilotage law of Massachusetts is efficient in Massachusetts to-day.

The WITNESS. Yes, sir; it is.

Mr. DINGLEY. Clearly so?

The WITNESS. Yes, sir.

Mr. DINGLEY. And yet that law exempts sailing vessels in the coastwise trade from compulsory pilotage?

The WITNESS. Yes.

Q. Now, if that works well in Massachusetts—does it work well there? I want to find that out.—A. Oh, it works well. Well, I won't say that particularly. We have a station at Cape Cod, and all our coasting vessels generally come there.

Q. And they do all that in the face of the fact that pilotage as to coastwise vessels is not compulsory?—A. Well, suppose you abolish compulsory pilotage, can you force this vessel to lie there and wait?

Mr. DINGLEY. If you have abolished it in the coastwise trade, that cannot affect the matter.

By Mr. LORE:

Q. Do not these very vessels, when in stress of weather, take your pilots?—A. Yes, sir; certainly.

Mr. HUNT. Yes; they get the benefit of the system; that is the point; he has been trying to get that in all the time.

Q. You are thoroughly organized now, and they can get your assistance when they want it, because of this compulsory system?—A. Yes.

Q. Suppose your compulsory system is abolished, would not your pilot system go away with it?—A. Yes, sir; that would be the tendency.

By Mr. LONG:

Q. How many pilots are there in Boston?—A. Thirty-six.

Q. How many of them are over 60 years of age?—A. Four or five.

Q. The hard work is done by the young men?—A. In the winter season.

Q. Those four or five that are over 60 years of age, do they do interior duty? They remain in port, do they not?—A. Sometimes they do, but they generally withdraw in the winter time.

Q. Then are you not really compelling the commerce of the country to maintain a pension system for old and infirm pilots?—A. Oh, no, sir; they get nothing when they go; it is all an opposition business, each boat goes separately.

By the CHAIRMAN:

Q. Do your receipts from each boat go into a common fund?—A. Oh, no, sir; each boat divides its own earnings.

Q. Among the crew in the boat?—A. Yes.

Mr. LONG. Here is the Massachusetts act exempting the vessels engaged in the coasting trade:

No vessel regularly employed in the coasting trade declining the services of a pilot shall be obliged to pay compulsory pilotage into or out of any port in this commonwealth.

Then, to be fair to the pilots, this section is added:

No authorized branch pilot for the port of Boston shall be obliged to render service to exempted vessels in accordance with the laws and regulations as applied to vessels that come within the compulsory act.

Mr. DINGLEY. What is the date of that act?

Mr. LONG. 1873.

The WITNESS. Mr. Emery came before the Massachusetts legislature last year, and in one of the sections of his petition says:

We also want pilots to be obliged to bring vessels into port that are exempt from pilotage at the regular rates when required by the masters to do so.

That is, he wants us on deck ready to render service when he sees fi to call upon us. He wants us there to perform all our duties, with no obligation on his part to employ us. If that is fair, I fail to see it. The whole sum and substance of Mr. Emery's petition to the legislature of Massachusetts is to benefit Mr. John S. Emery's vessels.

WASHINGTON, D. C., *February* 21, 1884.

ARGUMENT OF MR. MICHAEL L. WOODS AGAINST THE BILL.

Mr. CHAIRMAN AND GENTLEMEN OF THE COMMITTEE: I come to the discussion of this question with considerable trepidation because I am not a pilot. I do not know much about the practical working of the system except as I hear of it.

Upon an examination of the question, I find that on the 7th day of August, 1789, I suppose I might say "our forefathers" left this matter entirely to the States. They passed an act with which you are all no doubt familiar, but as it is very short I will read it:

An act for the establishment of light-houses, beacons, buoys, and public piers; approved the 7th day of August, 1789.

Section 4 says:

All pilots in bays. rivers, inlets, harbors, and ports of the United States shall continue to be regulated in conformity with existing laws of the States respectively wherein such pilots may be, and with such laws as the States may respectively hereinafter enact for the purpose until further legislative provision may be made by Congress.

On the 8th day of May, 1792, pilots were exempted from militia duty.

The CHAIRMAN. By act of Congress?

Mr. WOODS. Yes; and a further provision was made that as to a stream of water that lay between two States, the pilot should be subjected to the laws of either. There was a subsequent amendment, I believe, which was the subject of discussion here this morning, exempting naval vessels, &c., from pilotage.

That has been the system of this country from the beginning of our existence; and the wisdom and philosophy of it, it seems to me, were never better illustrated than by the facts developed here this morning. And that is that no uniform system upon a matter of this character can be made applicable to the different ports of the United States or to the several States. A law, for instance, which might be applicable to the State of Maine, represented by the honorable gentleman here [Mr. Dingley], or a law which might be applicable to the State of Massachusetts, so well represented on the committee by the honorable gentleman here [Mr. Long], and before the committee by a number of the pilots, might not apply, for instance, to the State of Viginia. I happened to hear the discussion of this question the other day before the Senate Committee on Commerce. That brings the question down to the very point which is at issue before this committee, and that is whether by the exemption proposed by the bill, as I understand it, of the honorable gentleman from Maine (Mr. Dingley)—whether or not coastwise sailing vessels shall be exempted.

The gentlemen who appeared before the Senate committee on behalf of the pilots of Virginia—Norfolk, particularly—said that if that law was passed, while it would not materially affect the pilots I represent here

(the New York and New Jersey pilots—the Sandy Hook Association while it would not affect my clients, it would so materially affect the pilot system of Virginia as to break it down and entirely destroy it. Therefore, I say, Congress ought to leave this matter where it is, with the respective States. Certainly the people of Louisiana can regulate the pilot system which should govern New Orleans. I know that the people of Alabama (my State) can legislate so as to protect the people of Mobile. They do it, and do it satisfactorily to everybody. So it is in Virginia. So it is, I suppose, in South Carolina. So it is in all other States.

Mr. LONG. Mr. Richardson raised the question the other day that this could not be left to the States.

Mr. LORE. Do you mean, governor, that the States could not repeal their pilot laws?

Mr. LONG. I will read the section (4237); you are familiar with it:

No regulations or provisions shall be adopted by any State which shall make any discrimination in the rate of pilotage or half pilotage between vessels sailing between the ports of one State and vessels sailing between the ports of different States, or any discrimination against vessels propelled in whole or in part by steam, or against national vessels of the United States.

Therefore, the State of Massachusetts, if it wanted to pass this bill which should provide that sailing vessels might have the same privilege with regard to being towed by a tug in which was a licensed pilot of the United States, if Massachusetts should want to extend that privilege to sailing vessels, it could not do so on account of that action of the United States.

Mr. WOODS. On account of the action of Congress?

Mr. LONG. Yes.

The CHAIRMAN. What is the section?

Mr. LONG. Section 4237. Mr. Richardson raised the point the other day, and it seemed to me that there was some strength in it.

Mr. WOODS [reading]: "No regulations or provisions shall be adopted by any State which shall make any discriminiation against vessels propelled in whole or in part by steam * * *." That may be true, but that would simply raise the question of the constitutionality of the provisions of the different States. They could not discriminate, and I do not suppose they do, between a South Carolina and a Louisiana vessel; they could not charge a vessel sailing from Boston to Charleston more than one sailing from Boston to Louisiana. I do not suppose that any of the States would attempt that.

Mr. LONG. Just read the further clause.

Mr. WOODS [reading]: "Or against vessels propelled in whole or in part by steam, or against national vessels of the United States." What I understand by that is that any law of the States which was uniform in respect to the different character of vessels would not be obnoxious to that statute.

You, gentlemen, are no doubt familiar with the case of Cooley *vs.* The Board of Wardens of the Port of Philadelphia (12 Howard, 311). In the opinion in that case I find the following:

We think this particular regulation concerning half-pilotage fees is an appropriat part of a general system of regulations of this subject. Testing it by the practice of commercial states and countries legislating on this subject we find it has usually been deemed necessary to make similar provisions. Numerous laws of this kind are cited in the learned argument of the counsel for the defendant in error, and their fitness as a part of a system of pilotage in many places may be inferred from their existence in so many different states and countries. Like other laws they are framed to meet the most usual cases—*quæ frequentius accidunt;* they rest upon the propriety of securing

lives and property exposed to the perils of a dangerous navigation by taking on board a person peculiarly skilled to encounter or avoid them, upon the policy of discouraging the commanders of vessels from refusing to receive such persons on board at the proper times and places, and upon the expediency and even intrinsic justice of not suffering those who have incurred labor and expense and danger to place themselves in a position to render important service generally necessary to go unrewarded, because the master of a particular vessel either rashly refuses their proffered assistance, or, contrary to the general experience, does not need it. There are many cases in which an offer to perform, accompanied by present ability to perform, is deemed by law equivalent to performance. The laws of commercial states and countries have made an offer of pilotage service one of those cases, and we cannot pronounce a law which does this to be so far removed from the usual and fit scope of the laws for the regulation of pilots and pilotage as to be deemed, for this cause, a covert attempt to legislate upon another subject under the appearance of legislating on this one.

In the case, *Ex parte* McNeil, in 13 Wallace, 239, I find the following:

There is nothing new in provisions of the same character with the one under consideration. They have obtained from an early period, and are to be found in the laws of most commercial states. The obligation on the captain to take a pilot or be responsible for the damages that might ensue, was prescribed in the Roman law. The Hanseatic ordinances, about 1457, required the captain to take a pilot under the penalty of a mark of gold. The maritime law of Sweden, about 1500, imposed a penalty for refusing a pilot of 150 thalers, one-third to go to the informer, one-third to the pilot who offered, and one-third to poor mariners. By the maritime code of the Pays Bas, the captain was required to take a pilot, under a penalty of 50 reals, and to be responsible for any loss to the vessel. By the maritime law of France, ordinance of Louis XIV., 1681, corporal punishment was imposed for refusing to take a pilot, and the vessel was to pay 50 livres, to be applied to the use of the marine hospital, and to repair damages from stranding. In England (3 George I, chapter 13), if a vessel were piloted by any but a licensed pilot, a penalty of £20 was to be collected for the use of superannuated pilots, or the widows of pilots. In the United States provisions, more or less stringent, requiring the payment of a sum when no pilot is taken, are to be found in the statutes of ten of the States. The earliest of these statutes is that of Massachusetts of 1783, and the latest to which our attention has been called the statute of New York, here under consideration.

Now, this system has been in vogue, as you see, in this country since 1789. It has been in vogue in all civilized countries for hundreds of years; and the matter simply reduces itself now, it seems to me, practically, to two propositions: The first is, Shall we dispense with the system of compulsory pilotage? I do not believe that there is any public man, unless it is Mr. Hale, of Maine, who, I think, introduced the bill in the other house of Congress, who favors abolishing compulsory pilotage entirely. Then if we are to have compulsory pilotage, the next question is: Are we to have a good system of compulsory pilotage? In other words, must we have a system of compulsory pilotage which, of itself, will sufficiently reward the pilots to make them good, safe, reliable pilots. Now, if there is any law of any State which permits exorbitant charges for the labor of the pilots, then I, for one, say that the State ought to amend the law. I know that my clients are having some trouble in the State of New York with respect to their charges there, and it is possible, if not probable, that they will have to make a concession; but so far as the system is concerned, the underwriters and merchants of New York City, with only here and there an exception, are entirely satisfied with it. Your reading and information on this subject teach you that in 1845 New York undertook to abolish the compulsory system and adopt another, but the merchants themselves, who, in the olden time were the ship-owners and controlled their own ships, sought relief from the legislature, and in 1853 the system was reestablished.

Mr. LONG. Were tugs used to any extent then?

Mr. WOODS. I could not tell you.

Mr. LONG [to Mr. Dingley]. Had the tug system come in then?

Mr. DINGLEY. It has come in only very recently. [To Mr. Woods.]

You do not mean to say that the compulsory system is in force for the coastwise trade?

Mr. WOODS. No sir.

Mr. DINGLEY. It is only for the foreign.

Mr. WOODS. Only for foreign. I should like to call the attention of the committee to another point. This bill says:

That the inspectors mentioned in section 4442 of the Revised Statutes may grant licenses to pilots for sailing vessels in any ports or harbors of the United States upon the same terms and conditions, so far as applicable, and with the same rights and powers, given to pilots of any steam vessel under the laws of the United States in such ports or harbors.

Now, look at that for a moment. The inspectors provided for in the Revised Statutes are entirely inspectors of steam vessels, and the section to which reference is made is to the effect that when any person claiming to be a skillful pilot of steam vessels offers himself for a license the inspector shall make diligent inquiry, &c., to see whether he possesses the requisite knowledge and skill and is trustworthy, &c.; and if they find him so, they shall grant him a license to pilot any such vessel within the limits prescribed in the license. But such license shall be suspended and revoked upon satisfactory evidence.

Now, let us go back for a moment. Section 4442, and the three or four subsequent sections, provide for the appointment of a supervising inspector-general, and certain other supervising inspectors, all of whom shall have knowledge and shall be appointed for their knowledge, skill, and practical experience in the uses of steam for navigation. It is now proposed by this bill to apply to sailing navigation, as I might call it, that system which provides for tests relating to steam navigation. That seems to me to be a somewhat dangerous experiment. But, let us go a little farther and see what this bill really does provide for.

And no sailing vessel piloted into or out of any port of the United Stats by any such duly licensed pilot, shall be holden or obliged to take any other pilot in any such port, or be compelled to pay any charges or fees to any pilot for pilotage services offered and declined under the pilotage laws or regulations of any State.

Now, who would be liable to pay pilotage fees under that section of the statute? Is there anything there about a "coastwise pilot," or any sailing vessel that should come into one of our ports with any of these pilots on board? Would they be liable? I understood from Senator Fry, who introduced a similar bill in the Senate, that so far as he was concerned he did not intend that his bill should apply to any but coastwise, and if it lacked any definiteness of language, he was ready to accept an amendment. But it does seem to me that if you pass that law you exempt from the payment of these compulsory pilotage fees any sailing vessel, no matter what trade it is in, if it has on board one of the pilots authorized by the act. The pilots are to be appointed by a system which provides for coastwise trade steam navigation. Sailing pilots to be appointed by men skilled in steam navigation; and that applies to the coastwise trade. When you come to think of putting on board a sailing vessel a pilot appointed in that way (and it seems to me it applies to any vessel), I think the bill ought to be amended at least in that respect.

Mr. LONG. What "rights and powers" are "given to pilots of any steam vessel under the laws of the United States"? Does that provision extend beyond coastwise steam vessels?

Mr. WOODS. I do not think that it does.

Mr. LONG. Well, this is the same; "with the same rights and powers

given to pilots of any steam vessel under the laws of the United States." Still I ask for information, because your point strikes me as forcible.

Mr. WOODS. It seems to me that the bill is susceptible to the interpretation that I give it. There is no doubt that the pilot in his appointment, or in the machinery by which he receives his commission, has to apply to an inspector who is appointed for the purposes of coastwise steam navigation. The Dingley bill says that with a pilot appointed in that way and for that purpose, on board any sailing vessel that enters one of our ports, such vessel is not to be subject to the payment of any compulsory pilotage fees. I do not know that that is the proper construction of the bill, but it strikes me so.

Mr. DINGLEY. Do I understand you to object to a bill that would be limited to vessels in the coastwise trade?

Mr. WOODS. I was going to conclude my remarks on that. My information from the Southern ports is that a bill of that kind would entirely destroy the pilotage system. I do not know how it would affect Galveston or New Orleans, but from Baltimore down to Charleston or Savannah, or Jacksonville, Fla., my information from the pilots and those conversant with this matter is that it would entirely destroy and break up the system of compulsory pilotage.

Mr. HUNT. That is what I understand them to say. They send me word to that effect about the pilotage system at the mouth of the Mississippi.

Mr. WOODS. Now, I say that a system that has worked so well for so many hundreds years in other countries, and for so long a time in our own country should not be discarded for an experiment. I understand that since the unfortunate loss of the Columbus, the company to which she belonged have employed a pilot specially for themselves; and that the loss of that steamer has so aroused the people of Rhode Island that they are now looking around for a compulsory and efficient pilotage system to be secured through their legislature. I think the system that has worked so well and so long ought to be left just where it was left by our forefathers—to the wisdom of the States, respectively. If they make any law that clashes with the Constitution, in view of section 4237 of the Revised Statutes, to which the honorable gentleman from Massachusetts (Mr. Long), has referred me, that is a matter for the courts to decide. It seems to me that a system could be adopted which would conform to the Constitution notwithstanding that section. In other words, I think a system could be adopted by the several States which would not violate any of the provisions of the act of Congress.

Mr. DIBBLE. Is not that an act confined entirely, in its terms, to the simple point of rates of pilotage?

Mr. WOODS. That is the way it seems to me—that they could not make any discrimination in charges, and that any system that would not discriminate would not be prohibited by that section.

The CHAIRMAN. According to the announcement of yesterday, the public hearings on the question of pilotage are now closed.

APPENDIX.

[General Order No. 277.]

NAVY DEPARTMENT,
Washington, November 17, 1881.

The attention of commanding officers of naval vessels is called to the regulations regarding the employment of pilots, and to the fact that their services are authorized *only when necessary.*

Commanding and navigating officers are expected to pilot their vessels under ordinary circumstances, and where such duty is not specially difficult.

Hereafter, upon all vouchers for payments of pilots, the commanding officer will certify that the services of a pilot were thought necessary, and that he did not consider himself justified in running his ship without.

WILLIAM H. HUNT,
Secretary of the Navy.

[Telegram.]

NEW ORLEANS, *February* 14, 1884.

J. R. BECKWITH, *Willard's, Washington, D. C.:*

Pilots' full share from January, 1881, to 1st of January, 1882, $1,800; from 1882, to 1883, $1,630; from 1883 to 1884, $1,104. Cause for falling off, no grain exported.

RICHARD FRANCIS.

BOSTON, *February* 23, 1884.

DEAR SIR: I write you, sir, to express for myself and those interested with me, to thank you for your kindness to us in the different hearings on the pilot question. Be assured, my dear sir, we shall hold you in grateful remembrance. The documents you ask for I left with the stenographer, requesting them to be given to the committee when he had used them. Fearing that he may not have done so, I send them to you by mail. With many kind wishes for your success,

I remain, yours truly,

E. G. MARTIN,
Boston Pilot.

Hon. CARLETON HUNT, M. C.

P. S.—I also send you an account of the rescue of the crew of Bark Esther, by pilot-boat No. 2, to which I belong.

RESCUE OF A SHIP'S CREW.

The steamer Marengo, from Hull, England, which arrived at her dock in South Boston yesterday morning, brought to this city seven of the crew of the bark Esther, captain Benjamin, bound from Perth Amboy for Portland. The men were rescued by Captain Martin of pilot-boat No. 2, who, while cruising about 60 miles east-southeast of Boston light, on Thursday afternoon, saw the Esther on her beam ends and flying a signal of distress. He bore down for her, and took off the captain and eight men, and all their personal effects. This dangerous task had hardly been completed before the Marengo hove in sight, and the steamer being in need of a pilot, Captain Martin went on board, taking seven of the men with him, and leaving Captain Benjamin and his first officer on his boat. The transfer effected, the Marengo started for Boston, but she had gone but a little way when the Esther sank. This was at half-past three o'clock, exactly two hours after Captain Martin first sighted the sinking vessel. The Marengo lay in quarantine all night, and did not reach her dock until eight o'clock yesterday morning.

The Esther was loaded with coal, and in the heavy seas which were running on Wednesday her cargo shifted, and she was thrown on her beams ends. The crew were put to work at righting her, and succeeded. The sudden changes of wind and the heavy seas undoubtedly caused the cargo to shift again, and the water coming in over her upper works caused the crew to give up all hopes of saving her. She had at least ten feet of water in her hold when she was abandoned.—[*Daily Advertiser, February* 23.]

BOSTON, *February* 23.

Hon. CARLETON HUNT, M. C.:

DEAR SIR: As Mr. Dingley doubted the honesty of my statement regarding the Bangor system in which I stated that a brig bound to Bangor had a flag flying for three days off the port and was unable to obtain one—the brig's name was Mathilde, and the facts of the case are these: The captain found that he could not obtain a pilot, consulted his book of directions and found that the Boston pilots had a station boat off Cape Cod, immediately took his departure for that point, found the Boston pilot-boat No. 8. on duty there, and took a pilot for Boston to obtain some one to conduct his vessel to Bangor. The captain furnished a letter stating the facts, which is somewhere in the State House of Boston.

Respectfully yours,

E. G. MARTIN,
Pilot.

If you will kindly mention the fact to the committee you will oblige us.

Yours, &c.,

E. G. M.

48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 39.

EDUCATION OF INDIANS.

CONCURRENT RESOLUTION

ADOPTED BY

THE LEGISLATURE OF NEW YORK

RELATIVE TO

THE EDUCATION OF INDIANS.

FEBRUARY 26, 1884.—Referred to the Committee on Indian Affairs and ordered to be printed.

STATE OF NEW YORK, EXECUTIVE CHAMBER,
Albany, February 23, 1884.

SIR: By direction of the governor I have the honor to inclose herewith a copy of a concurrent resolution adopted by the legislature of this State, and transmitted to you at its request.

Very respectfully,

DANIEL S. LAMONT,
Private Secretary.

Hon. SAMUEL S. COX,
House of Representatives, Washington, D. C.

STATE OF NEW YORK, IN ASSEMBLY,
Albany, February 6, 1884.

Whereas, believing that the education of Indians and their voluntary citizenship in the United States will most justly, quickly, and economically solve the Indian problem; therefore

Resolved (if the Senate concur), That our Senators and Representatives in Congress be and they are hereby requested to aid in the passage of resolutions solemnly pledging the faith of the nation to the Indian policy embodied in the following principles:

First. That the unpaid sum pledged for educational purposes by the Government as part payment for the cession of lands by Indians be appropriated for the purchase of stock, farming implements, tools, &c., for Indian manual labor schools.

Second. That so much of the net proceeds of the sale of public lands as may be necessary shall be set apart for the purpose of creating a permanent fund for the education of Indians.

Third. That lands in severalty, making their titles inalienable for twenty-five years, and United States citizenship may be granted at once to all Indians who so desire.

Fourth. That the legal personality of all Indians may be granted, and that protection of law may be given them, as it is to all other races within these United States.

Fifth. That the civilization of Indians may be hastened, by providing for and rewarding their civilized industries.

Sixth. That the salaries of Indian agents be increased sufficiently to secure good men of large capacity and business experience, and to retain them in service.

Resolved (if the Senate concur), That the Governor be requested to transmit a copy of the foregoing resolution to each of the Senators and Representatives in Congress from this State.

By order.

C. A. CHICKERING, *Clerk.*

IN SENATE, *February* 14, 1884.

Concurred in, without amendment.

By order.

JOHN W. VROOMAN, *Clerk.*

O

48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 40.

FOOT AND MOUTH DISEASE.

LETTER

FROM

THE SECRETARY OF THE TREASURY

RELATIVE TO

The foot and mouth disease in Great Britain.

FEBRUARY 29, 1884.—Referred to the Committee on Agriculture and ordered to be printed.

TREASURY DEPARTMENT,
February 27, 1884.

SIR: Referring to the reports of the Treasury Cattle Commission, sent by this Department to Congress on the 21st and 28th of December last, which were referred to your committee, I have the honor to inclose herewith a copy of a dispatch from the United States consul at Birmingham, England, in regard to the prevalence of the foot and mouth disease among cattle in Great Britain, and the reply of this Department thereto, addressed to the Secretary of State.

The disclosures made by this dispatch as to the prevalence of the disease throughout Great Britain show more than ever the necessity for legislation that will protect the interests of the United States against the importation of disease, cattle.

I may also state that both in and near the quarantine station for the protection of cattle imported into the State of Maine, the foot and mouth disease has recently broken out, and appearances indicate beyond any reasonable doubt that it had its origin in a lot of cattle imported from Great Britain.

It is believed that no other case of this disease exists in this country.

The powers extended to this Department, in the way of protection against this disease, are wholly insufficient to protect our interests, and the matter as previously presented and herein stated, it is hoped, will receive the consideration of Congress at a very early day.

Very respectfully,

CHAS. J. FOLGER,
Secretary.

Hon. WM. H. HATCH,
Chairman Committee on Agriculture, House of Representatives.

TREASURY DEPARTMENT,
February 27, 1884.

SIR: I have the honor to acknowledge the receipt of your letter of the 19th instant in which you inclose a copy of a dispatch from the consul of the United States at Birmingham, England, relative to cattle disease in England, and requesting to be informed whether he will be justified in refusing his certificate to invoices of cattle shipped from England to the United States without special evidence that the cattle are sound in health.

This subject of the foot and mouth disease, pleuro-pneumonia, and other infectious and contagious diseases among cattle is becoming a very important one both to our domestic interests and to those abroad.

The foot and mouth disease exists to a very large extent in England, and I regret to say has recently broken out in the vicinity of Deering, Me., from a lot of cattle which was imported from England.

This fact was communicated to you in my letter of the 18th instant. I may add that it is believed that no other case of this disease exists in the United States or its Territories. I think, therefore, that this Department is justified in using all the power accorded to it by law to see that as far as possible the shipment of diseased animals to the United States is prevented.

I inclose herewith a copy of instructions given by this Department March 16, 1876, in which it was held that the importation of blood stock from Great Britain and Ireland was to be permitted only when accompanied by a certificate from the United States consul that such animals were at the date of exportation in a sound and healthy condition, and entirely free from the hoof and mouth disease or any indications thereof.

The present exigency calls for the exercise of a like power in this respect, and I will thank you to inform the consuls of the United States throughout Great Britain that they shall not certify invoices of cattle or other ruminating animals unless satisfied, by the examination of a veterinary surgeon or otherwise, that the animals are in a healthy condition. It is hoped that the consular officers will not exercise their duty in a perfunctory manner, but that they will take pains to ascertain the true condition of the animals as to their freedom from disease before giving certificate.

I may add that it is not deemed necessary at the present time to apply these instructions to salted skins, sausage skins, or salted pelts, as it is believed that the importation of this description of merchandise is not likely to communicate the contagious diseases specified.

Very respectfully,

CHAS. J. FOLGER,
Secretary.

Hon. F. T. FRELINGHUYSEN,
Secretary of State.

No. 89.] CONSULATE OF THE UNITED STATES,
Birmingham, February 1, 1884.

SIR: Will you kindly let me know if I should be justified in signing certificates to invoices of cattle going to the United States from this country without some special evidence that the cattle are sound and healthy? I find by reading the contagious diseases animals act of Parliament of 1878, that the Government of this country is so anxious to protect the British farmer that it orders that foreign animals are to be landed only at a port of a port defined for that purpose by special order of council, to be called "foreign animals' wharf," and that "they are not to be moved alive out of

that wharf." It is well known that this law is stringently enforced, and that cattle coming from Dakota or Vermont are killed upon arriving at the end of a thirty days' journey, because it is possible that foot and mouth disease may exist in Texas or Florida.

Now, foot and mouth disease prevails in all parts of this country. In the week ending January 19 there were 631 farms reported infected and 18,916 animals with the disease.

Birmingham is surrounded by three counties, Warwick, Stafford, and Worcester. In the week ending January 19 there were 48 animals in Warwickshire, as compared with 22 the previous week, suffering with this disease. At the same time there were three animals with the disease in Worcestershire, but seven farms were infected. In Staffordshire, at that time, there were also seven infected districts. All of these are carefully watched and the whole country has a large and probably an efficient staff of police inspectors. The chiefs of police and clerks of the peace of the counties referred to have most courteously offered me every facility for obtaining any information I require regarding the disease, but the fact remains that, under the law, cattle from any of these infected districts can be moved to other parts of this country or shipped abroad two weeks after the disease is supposed to have disappeared from that district.

The contrast between this fact and the way the law is enforced against American cattle seems to me to be striking, so striking that it almost appears that the sea voyage may have some known ill effect, and this ill effect must be very serious, for the British farmer is not yet satisfied.

At a meeting held ten days ago the Gloucester Chamber of Agriculture passed a resolution that experience had proved that the slaughter of foreign animals at the port of debarkation had not proved efficacious, and calling upon the Government to prohibit the landing of such cattle. The mover of this resolution said some persons might have the mistaken idea that farmers were desirous of protecting themselves against foreign competition, but the real facts were that they wished to insure the British farmer against importation of disease, and *enable him to largely increase the supply of British-bred meat, and put a stop to the heavy losses he has been for a considerable time sustaining* from his flocks and herds becoming diseased.

Similar resolutions were, I believe, passed at the meeting of the Chambers of Agriculture of Staffordshire and Warwickshire, but I saw no report of these meetings which contained so frank an admission as this which I have quoted.

Cattle are not unfrequently shipped from this district to America for breeding purposes, and I wish to know if some special certificate should not be required when they come from near infected farms.

I should also be glad to know if hides and skins are capable of transmitting this, or the diseases of sheep and pigs. I remember that in Germany it was believed that the last serious epidemic of rinderpest in that country was traceable to some hides and furs imported from Russia. Raw hides are, I should think, rarely sent to the United States from this country, but there are constantly shipments of salted skins, sausage skins, pelts, and so forth, and I cannot recollect whether or not such things are capable of transmitting disease.

I have the honor, sir, to remain, very respectfully, your obedient servant,

WILSON KING,
Consul.

Hon. JOHN DAVIS,
Assistant Secretary of State, Washington.

C

48TH CONGRESS, 1st Session. { HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 42.

BOTKINS vs. MAGINNIS.

PAPERS AND TESTIMONY

IN THE CONTESTED-ELECTION CASE OF

A. C. BOTKINS vs. MARTIN MAGINNIS,

FROM MONTANA TERRITORY.

JANUARY 10, 1884.—Referred to the Committee on Elections, and ordered to be printed.

No. 1.

NOTICE OF CONTEST.

HELENA, MONTANA, *Dec.* 30, 1882.

Hon. MARTIN MAGINNIS:

SIR: You will please to take notice that I will contest your election and return as Delegate to the Forty-eighth Congress for the Territory of Montana. The grounds upon which I rely in said contest are as follows:

1. That a large number of illegal and fraudulent votes, to wit, three thousand, (3,000,) were cast, counted, and canvassed for you in the counties of Custer, Dawson, and Missoula, in said Territory.

2. That polling places were established in the counties of Custer, Dawson, and Missoula aforesaid without authority of law, and in violation of the statutes of Montana Territory, at which polling places a large number of votes, to wit, two thousand, (2,000,) were cast, counted, and canvassed for you.

3. That the precinct or polling place designated as Cross River, and alleged in the return to be in Gallatin County, in said Territory, was situate upon an Indian reservation, to wit, upon the reserve for the Crow Indians, at which said precinct or polling place 295 votes were cast, counted, and canvassed for you, and 79 for this contestant.

4. That, in the counties of Custer, Gallatin, and Missoula, men employed in the construction and operation of the Northern Pacific Railroad were coerced to vote for you by intimidation and threats of discharge from contractors, sub-contractors, and other employers.

5. That the votes cast in the several counties of the said Territory were not counted, returned, and canvassed in accordance with law.

Very resp'y,

ALEXANDER C. BOTKIN.

DISTRICT OF COLUMBIA, *ss:*

Stuart J. Gass, being duly sworn, deposes and says that he is a deputy United States marshal for said District, and that he served a copy of the foregoing notice of contest on the Hon. Martin Maginnis, at the city of Washington, in said District, on the 9th day of January, 1883.

STUART J. GASS.

Subscribed and sworn to before me this ninth day of January, 1883.
[SEAL.] R. JENERYS, *Cl'k,*
By R. JENERYS, JR., *As't.*

TERRITORY OF MONTANA,
County of Custer, ss:

I, W. B. Towne, clerk of the probate court in and for said county, do hereby certify that the above and foregoing is a full and true copy of the original notice of contest wherein Alexander Botkin is contestant and Martin Maginnis contestee, in the matter of the contested election for Delegate to the 48th Congress for Montana Territory.

In witness whereof I have hereunto set my hand and official seal, this 23d day of July, A. D. 1883.

[SEAL.] W. B. TOWNE,
Clerk of the Probate Court.

ANSWER OF CONTESTEE.

U. S. OF AMERICA,
Territory of Montana:

JANUARY 25, 1883.

To ALEX. C. BOTKIN:

The answer of Martin Maginnis to notice of contest of Alex. C. Botkin.

The respondent, Martin Maginnis, Delegate-elect from the Territory of Montana, insists that he was duly elected as Delegate in the 48th Congress by a large majority, to wit, fourteen hundred and eighty majority, of the lawful voters of said Territory, and that he has the right to said office of Delegate in Congress, and that the certificate thereto was issued to him in due and strict conformity to law.

The respondent is advised by the most competent authority that the notice of contest served by Alex. C. Botkin is in no sense a legal notice, containing such particular and specific allegations as are required by law, in order that they may be answered; but, with the exception of the third ground of contest, which specifies the alleged illegality of the vote at Cross Rivers precinct, the notice is vague and general, not admitting of specific answer. This respondent further believes that this contest is not brought in good faith, nor with any belief on the part of the contestant that he has any ground of contest or can show any right to the office, or has any expectation or intention of showing any such right, or has any other motive in this contest than the attempt to make political capital with his own partisans and to annoy this respondent, and finally to run up a bill of expense, in the expectation of obtaining the costs of this so-called contest from the Government. But, in order that these general and groundless allegations may be sifted before proper officers competent to take testimony & refuted, this respondent enters this answer, although advised that his pretended notice of contest requires no answer from him.

Respondent, the contestee, replying to the first ground of contest alleged, denies that three thousand illegal votes, or any other number, or any illegal votes, were cast, counted, or canvassed for him in the counties of Custer, Dawson, and Missoula, and claims that this ground of contest is insufficient, as it does not specify any place or precinct or votes illegally cast, but is a mere general and non-specific allegation covering the election in sections of the Territory larger than most of the States of this Union.

To the second ground alleged, respondent denies that polling places were established in the counties of Custer, Dawson, and Missoula without authority of law, and in violation of the statutes of Montana, at which polling places two thousand votes or any other number of votes were cast. As the notice fails to specify any precinct which was irregularly established, this denial is necessarily a general one.

This respondent, answering the third & only specific ground of contest alleged in the notice, to wit, that the polling place designated as Cross Rivers, & alleged in the returns to be in Gallatin County, "was situated upon the Crow Indian reservation," says that it is a matter of public statute and notice that said precinct was not

any Indian reservation; that said precinct was on the west side of Boulder River, & that all the country west of that stream formerly belonging to the Crow reservation was ceded by the Crow Indians, on the 12th day of June, A. D. 1880, by agreement with officers of the Government, which agreement was duly ratified by both houses of the Congress and approved by the President on the 11th day of April, 1882, and that by act of the legislature of Montana, duly passed and approved, the country so ceded was added to and embraced within the limits of Gallatin County; all of which was of public notice & acted upon by the county commissioners of Gallatin County, when, without protest from any party, they established a polling place at that point, in strict conformity with the laws of Montana.

The respondent, answering the fourth alleged ground of contest, to wit, "that in the counties of Custer, Gallatin, and Missoula men in the employ of the Northern Pacific Railroad were coerced to vote for you (respondent) by intimidation and threats of discharge from contractors, sub-contractors, and other employers," not only denies this, but characterizes farcical & absurd, & alleges to the contrary that the county of Gallatin was carried by the contestant by the illegal votes of men employed in the construction of the Northern Pacific R. R., cast at the precincts of "Hunters," Stillwater," "Muir City," "Bozeman," and "Gallatin City," at which places contestant received 1,128 votes out of 1,693 votes counted for him in that county; out of these votes at least eight hundred were cast by laborers employed on the construction of the Northern Pacific Railroad, mostly by Scandinavians, few of whom could talk English, most of whom were not naturalized, and many of whom only declared their intention to become citizens on the day of election, or within the ten days immediately preceding; that such declarations were not made in open court, but to itinerant deputies of the clerk of the court, in a most irregular and, as the respondent believes, illegal manner; and further, the respondent charges that the only undue influences used in the election were used by the contestant and his friends in his own behalf.

Because the contestant was the United States marshal for the Territory, & used and abused his office in many ways to assist in his election; respondent is informed by responsible citizens & officials of Choteau County, thereby undertakes to prove—

That the contestant made an arrangement with one Riall, an alien British half-breed, not capable of being naturalized under our laws, to vote a large number of British half-breeds, trespassers on American territory, for said Botkin, for which said Botkin paid this man Riall a sum of money and promised him the protection of his office.

That a large number of votes at Reedsport & other places in Meagher County were cast and counted for said contestant, voted by alien British half-breeds.

That the deputies of said U. S. Marshal Botkin were active in his behalf all over the Territory, & used threats & promises of official punishment or protection in his behalf.

That one of his deputies, whose name is unknown to this respondent, but who was lately a night-scavenger at Ft. Shaw, & who is commonly known as "Dutch Fred," visited various trading-posts & settlements along the Missouri River & the borders of an Indian reservation, & promised immunity from arrest & punishment to certain illicit and criminal traders of whiskey to Indians, if such persons would vote & work for his chief, and claimed to make such promises on the part of the U. S. marshal, the contestant.

That, in order to pay the expenses of this deputy on this electioneering trip, said marshal, the contestant, gave him authority to subpœna a certain person as witness in the U. S. court. This deputy was sent from the town of Ft. Benton to the ostensible residence of this person, about 200 miles and back, for which mileage was charged to the United States by said marshal, although it was well known to the marshal & his deputy that the person sent for was then in the town of Ft. Benton.

Because further, in order to defray the expenses of the contestant's canvass, assessments were levied upon employé or employés of the United States, upon other employés & officers of the United States, in violation of law & defiance of sound public policy.

Because certain mining superintendents & officials at Gregory precinct, in Jefferson County; at Glendale & Leon City, in Beaver Head County, & at Butte, Centreville, and Centennial Brewery precincts, in Silver Bow County, did unduly influence their employés to vote for contestant, said employés being mostly new comers in the Territory & transient residents thereof.

Finally, as to the last alleged ground of contest, to wit, "that the votes cast in the several counties of the said Territory were not counted, returned, & canvassed in accordance with law," is so vague and general that it can only be met by as general a denial, which is here entered. The only neglect of duty on the part of any official connected with the election or return known to this respondent was that of the contestant, who is by law one of the Territorial canvassing-board, & who neglected or refused to

obey the laws and meet with the board on the day set in the statutes, compelling that board to adjourn from day to day until he did put in an appearance & perform his part in the canvass of the votes, which he now complains to be irregular on the part of his own wrong.

Respondent therefore insists that the canvass of the returns made by the Territorial canvassing-board, of which contestant was a member, showing that Alex. C. Botkin received 10,914 votes & Martin Maginnis 12,398 votes, is the true and lawful return of the election, and duly elected this respondent to the office of Delegate in the 48th Congress of the U. S.

MARTIN MAGINNIS.

House of Representatives, Washington, D. C., Jan. 29, 1883.

TERRITORY OF MONTANA,
County of Custer, ss:

I, W. B. Towne, clerk of the probate court, do hereby certify that the above and foregoing is a true and correct copy of the answer of Martin Maginnis, contestee, upon Alexander C. Botkin, contestant, in the matter of the contested election for Delegate to the 48th Congress from Montana Territory.

In witness whereof I have hereunto set my hand and official seal, this 23d day of July, A. D. 1883.

[SEAL.]

W. B. TOWNE,
Clerk of the Probate Court.

In the matter of the contested election for Delegate to the 48th Congress from Montana.

ALEX. C. BOTKIN
vs.
MARTIN MAGINNIS.

It is hereby stipulated and agreed, by and between the parties herein, that the depositions of such witnesses as may be offered on behalf of the contestant herein, with respect to the vote in Custer County and all the precincts thereof, shall be taken without notice, and notice thereof is hereby waived.

ALEX. C. BOTKIN.
TH. R. EDWARDS,
Att'y for Martin Maginnis.

TERRITORY OF MONTANA,
County of Custer, ss:

I, W. B. Towne, clerk of the probate court in and for said county, do hereby certify that the above and foregoing is a true and correct copy of the stipulation waiving notice in the matter of the contest for Delegate to the 48th Congress from Montana Territory, wherein Alexander C. Botkin is contestant and Martin Magginnis is contestee.

In witness whereof I have hereunto set my hand and official seal, this 23d day of July, A. D. 1883.

[SEAL.]

W. B. TOWNE,
Clerk of the Probate Court.

TESTIMONY FOR THE CONTESTANT.

In the matter of the contested election for Delegate 48th Congress for Montana Territory.

ALEXANDER C. BOTKIN
vs.
MARTIN MAGINNIS.

TERRITORY OF MONTANA,
County of Custer, ss:

CHARLES DOUGLASS, being first sworn, was examined by the above-named contestant in person, and the questions propounded to him and the answers thereto are as follows:

1. Q. What is your official position?—A. Deputy county clerk of Custer County, Montana.

2. Q. Mr. Douglass, refer to the proceeding of the county commissioners of Custer County at their regular session immediately preceding their general election in 1882, and say for what townships and precincts judges of elections were appointed.

(The foregoing question objected to as being immaterial; the record has been mutilated, and nothing of an official character about it, no official signatures to it showing that is a record of Custer County.)

A. The first regular session was on September 4th, 1882. The following precincts were established and judges appointed: Precinct No. 1, Miles City; No. 2, Prince's Ranch, Joe Prince's house; No. 3, Bull Creek, Thompson's house; No. 4, Rosebud, Simpson's house; No. 5, Big Porcupine; No. 6, Froze to Death, Hyde's house; No. 7, Etchetah, Guy's store; No. 8, Junction City, McCormick & Carlisle's store; No. 9, Huntley, Smith & Hagie's store; No. 10, Coulson, Peasley's store; No. 11, Billings, Star & Bullock's store; No. 12, Canyon Creek; No. 13, Young's Point; No. 14, Forsythe; No. 15, Rosebud, south side of Yellowstone; No. 16, Lame Deer Creek, Barlow's ranch; No. 17, Graveyard Bottom; No. 18, Nealis Ranch; No. 19, Liscom's Ranch; No. 20, Sharp's Ranch; No. 21, Tongue River Tie Camp; No. 22, Lay's Ranch; No. 23, Gutgesell Ranch; No. 24, Little Missouri; No. 25, Deadwood Crossing, Powder River; No. 26, Woodliff's Ranch; No. 27, Powder River; No. 28, Terry; No. 29, O'Fallon Creek; No. 30, Iron Bluffs.

3. Q. Refer to the proceedings of any special meeting of the commissioners at which precincts were established or judges appointed, and say what precincts were so established, and for what precincts judges were so appointed.

(The foregoing question is objected to as being immaterial, and the witness is not testifying from any official record of Custer County.)

A. At the special session held on October 26th, 1882, the following precincts were established and judges appointed: Precinct No. 31, Government saw-mill; Precinct No. 32, Wooley's ranch, Musselshell; No. 33, Little Porcupine; No. 34, Upper Crossing of the Musselshell; No. 35, Birney Post Office; No. 36, Milton Post Office.

4. Q. Is the book from which you have answered the two preceding questions the only record of the proceedings of the commissioners of Custer County for the meetings named?—A. We suppose this book is.

(The contestant offers in evidence the abstract of votes for Delegate to Congress as certified by the canvassing-board of Custer County, a certified copy of which is annexed hereto, marked Schedule A.)

5. Q. Mr. Douglass, I ask you to produce the poll-book and tally-sheet of Wooley's Ranch precinct.

(The witness produced the poll-book, which was offered in evidence by the contestant. A certified copy thereof is annexed hereto, marked Schedule B.)

(The contestant offers in evidence the abstract of the vote for county commissioners of Custer County at a special election held on the 16th of April, 1883, a certified copy of which is annexed hereto and marked Schedule C.)

(To the introduction of which the contestee objects, for the following reasons: Said election was illegal and void, and it being no part of the election of November, 1882; and for the additional reason that a great number of the citizens of Custer County regarded this election as illegal, and refrained from voting; and further, the person signing himself chairman of the board of county commissioners, and the one signing himself treasurer of Custer County, and the one signing himself county clerk and clerk of the board of commissioners, were never legally elected as appointed to fill these offices.)

Cross-examination by THOMAS R. EDWARDS, attorney for contestee:

6. Q. You may state, Mr. Douglass, whether or not the books from which you have taken the list of voting precincts, and purporting to be the records of Custer County, are attested by any official of said county.—A. No, sir.

Redirect:

7. Q. Are the books referred to in the last question the recognized records of the proceedings of the county commisioners?—A. Yes, sir.

CHAS. DOUGLASS.

Subscribed and sworn to before me this 14th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

In the matter of the contested election for Delegate, 48th Congress, for Montana Territory.

ALEXANDER C. BOTKIN
vs.
MARTIN MAGINNESS.

TERRITORY OF MONTANA,
County of Custer, ss:

E. A. KREIDLER, being first duly sworn, was examined by the above-named contestant in person, and the questions propounded to him and the answers thereto are as follows:

8. Q. Where do you reside?—A. Miles City, Custer County, Montana.

9. Q. Were you present at the election for Delegate for Congress in 1882 at Miles City?—A. I was.

10. Q. Did you see any soldiers vote at said election?—A. I did; at least men dressed in soldiers' clothes.

11. Q. Did you see one or more persons vote more than once at such election?—A. I did. I saw one person vote twice.

Cross-examined by THOMAS R. EDWARDS, attorney for contestee:

12. Q. Do you believe that these persons dressed in soldiers clothes were soldiers?—A. I do, and did believe so at that time.

13. Q. Do you know whether they were enlisted in this Territory or not?—A. I do not.

14. Q. How many do you think there were?—A. I should judge there were between thirty and forty who voted while I was at the polls.

15. Q. Do you know for whom they voted for Congress?—A. I don't know how they all voted, but I saw some of them having Democratic tickets in their hands.

16. Q. The person whom you saw voting twice—do you know for whom he voted for Delegate to Congress?—A. The first ticket he voted was a Democratic ticket. The reason I know is that he was trying to crowd me out of the way to put in his vote, and my attention was called to his face and to his ballot by reason of such attempted crowding, and some words I had with him on account of the crowding.

17. Q. How about the second ballot?—A. I did not see his second ticket.

18. Q. Did you challenge his vote the second time?—A. I did not, because it was such a surprise to me. I saw him drive up to the polls with a load of voters, and I supposed, having seen his first ballot that he deposited, that he had a load of Democratic voters. But, to my surprise, he headed the line of voters, and, giving another name, deposited or voted the second time.

19. Q. Was your surprise so great that it deterred you from having this person arrested?—A. Well, before I thought of having him arrested or looking up an officer, he had voted and disappeared. Then, again, I had witnessed that day a little affray that had occurred, wherein one of the strikers of the Democratic party, known in Miles City as Flick, whose true name is John McTierney, who struck with a revolver one who had made some inquiry about the legality of some vote, and at that time did not deem it advisable to have a row, as I doubtless would have had had I taken any action in the premises at that time. Furthermore, at that time I could not remember the name he gave when he first voted, which was different than the one he gave when he deposited his second vote.

20. Q. So, knowing that this crime had been perpetrated, you did not seek to have the offender punished?—A. It is explained above. I could not have had him arrested before he disappeared, and I had no means of knowledge where he went or where to find him.

21. Q. State what official position you occupied at that time.—A. I was at that time, and am now, register of the United States land office at Miles City, Montana.

Redirect:

22. Who was the Democratic and who was the Republican candidate for Delegate to Congress?—A. Martin Maginness was the Democratic candidate and Alexander C. Botkins was the Republican candidate.

23. Q. Did you see a man struck with a revolver by one Flick, a Democrat?—A. I saw a man struck with a revolver by a man named Flick, who was recognized as a striker and worker for the Democratic ticket on that day.

E. A. KREIDLER.

Subscribed and sworn to before me this 14th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

t, and the questions propounded to him and the answers thereto are as follows:

Were you present at the election in November, 1882, for Delegate to Con-
A. I was.

Did you see any soldiers vote at such election?—A. I did.

How many soldiers did you see vote?—A. I don't know how many; I did not
em; I judged between 50 and 60. I saw about six or seven wagon-loads of
There were eight or ten in each wagon.

Is there a military post near Miles City?—A. There is.

ross-examined by THOMAS R. EDWARDS, attorney for contestee:

Were you present at the poles when these 50 or 60 soldiers voted?—Yes, sir;

Did you challenge the votes of any of them?—No; I did not.

Did you make complaint to any civil officer of these soldiers voting?—A. No,
d not.

Do you know that these men were soldiers, or were they dressed in soldiers'
—A. I know them to be soldiers. I knew them personally.

You may now give me the names of these soldiers.—A. I cannot give their
I know them only by sight.

What is your political creed?—A. I am a Republican.

State whether or not, to your knowledge, if many Republicans of Miles City
vote the Democratic ticket.—A. I do not know of any.

edirect:

State what you said to General Brisbin at the time the soldiers voted.—A. I
im the soldiers are all voting, and asked him if they had a right to vote.

What did General Brisbin say in reply?—A. He said no, they had no right to

JOHN CARTER.

ibed and sworn to before me this 14th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

OHNSON, being first duly sworn, testifies as follows:

Were you present at the election for Delegate to Congress at Miles City in
er, 1882?—A. I was.

Did any soldiers vote at said election?—A. They did.

How many?—A. I think there was over a hundred.

Were the votes of any such soldiers challenged?—Yes, sir.

Were they challenged individually or in groups?—A. Some were challenged
ally and others in groups.

Were the votes of those who were challenged received?—A. They were, as far
w.

47. Q. Did you see any soldiers vote at such election?—A. I did.
40. Q. How many?—A. I think more than one hundred.
49. Q. Where were these soldiers from?—A. Fort Keogh.
50. Q. Were they challenged?—A. Yes; I saw quite a number challenged.
51. Q. Were the votes of those who were challenged received?—A. Some held up their hands to be sworn, and some did not. They were all received, as far as I know.
52. Q. Were you one of the judges of the school-district election at Miles City on the last Saturday in August, 1882?
(The foregoing question objected to as being immaterial and not a part of this contest.)
A. Yes, sir.
53. Q. How many votes were cast at said election?—A. 462 votes.
54. Q. Which is the larger geographically—the school district or the election precinct?—A. The school district.
55. Q. Is it not true there was an unusually large vote cast at that school-district election?—A. The vote was unusually large; great interest was manifested, and great efforts were made to secure a large vote. Carriages were kept running to take voters to the polls.

Cross-examined by THOMAS R. EDWARDS, attorney for contestee:

56. Q. You may state the boundaries of the school district.—A. It is quite large; it runs to Jack Woodliff's. It is much larger than the election precinct.
57. Q. You may now describe the boundaries of the election precinct.—A. I cannot state the geographical boundaries.
58. Q. State whether a citizen of Custer County has not the legal right to vote at any polling place in the county for Delegate to Congress, district attorney, legislative candidates, and all county officers.
(The foregoing question is objected to by the contestant upon the ground that it is not competent, and that the qualifications of electors are provided by law.)
A. I could not say positive about that matter.
59. Q. How many soldiers do you think were challenged?—A. Somewheres near forty.
60. Q. How many of these forty voted after they were challenged?—A. Seemed to me they all voted. I took pretty close notice.
61. Q. What is your political creed?—A. Republican.

LUTHER J. WHITNEY.

Subscribed and sworn to before me this 14th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

Redirect examination of L. J. WHITNEY:

62. How long have you resided in Miles City?—A. About six years in old town and new town.
63. Q. What do you believe to be the entire population in Miles City in November last?—A. About 2,000.
64. Q. This includes men, women, and children?—A. Yes.

LUTHER J. WHITNEY.

Subscribed and sworn to before me this 14th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

SAMUEL GORDON, being first duly sworn, testifies as follows:

65. Q. Are you school trustee for the Miles City school district?—A. I am.
66. Q. Were you present at the election in said district in August, 1882?—A. I was.
67. Q. How many votes were polled at said election?—A. 462 votes.
68. Q. Were there more than usual efforts made to secure a full vote at said election?—A. There was.
69. Q. Were you present at the election in the Miles City school district in April, 1883?—A. I was. I was one of the judges.
70. Q. How many votes were cast at that election?—A. 599 votes.
71. Q. Did any females vote at said election?—A. Yes, sir. I should think about 75.
72. Q. Were more than usual efforts made to secure a full vote?—A. Yes, sir; very strong efforts. Carriages and busses were kept running to take voters to the polls.
73. Q. Whom did the judges and clerks of the election in Miles City in November, 1882, support for Delegate for Congress?
(The foregoing question objected to as immaterial, and it is not shown that the witness knows.)
A. I think they were in favor of Martin Maginness.

Cross-examination by THOMAS R. EDWARDS, attorney for contestee:

74. Q. Whom did the judges and clerks of the school-district elections mentioned support for Delegate to Congress?—A. As to the first school election mentioned, I could not say. As to the second, one judge supported A. C. Botkin; another judge, I think, supported Martin Maginness; and as to the clerk, I could not say.

75. Q. State, if you know, what was the political creed of the judges and clerks of the November election.—A. I think they were all Democrats.

76. Q. What is your political creed, Mr. Gordon?—A. Republican.

77. Q. Are not the voters of your school district property-holders, and must be such to be enabled to vote?

(The foregoing question is objected to on the grounds that qualifications of electors of school elections are provided by law.)

A. I think that property qualification is essential, but not such as required at general elections.

Redirect:

78. Q. Is it not the law that every elector legally qualified to vote at any general election, being a resident of the school district and a taxable inhabitant thereof, shall be entited to vote?—A. Yes, sir.

79. Q. Are not all inhabitants taxable for some or other purposes?—A. They are.

SAMUEL GORDON.

Subscribed and sworn to before me this 14th day of July, 1883.

W. B. TOWNE,
Court Probate Court.

A. H. VAN VLIERDEN, being first duly sworn, testified as follows:

80. Q. Were you present at the election for Delegate to Congress at Miles City in November, 1882?—A. I was.

81. Q. Did you see any soldiers vote at said election?—A. I did.

82. Q. How many?—A. About fifteen voted while I was there. I was sick that day, and was taken to the polls in a carriage; and just as I got there there was a load of soldiers drove up, and I was compelled to wait until they voted before I could vote. One of the soldiers offered his vote; he was the head one; his vote was challenged, and one of the judges of election, Mr. Charles Brown, spoke and said, how many is there of you fellows, and I will swear you all at one time. One of them told how many there were. I think there were about 12 or 15; and as they was standing mixed up in the crowd, Mr. Brown, one of the judges, told them to hold up their hands, and then he administered the oath. I could not tell whether he was swearing the soldiers or the whole crowd, nor nobody else. After the oath was administered they commenced voting, giving in their names. They all voted. I voted and went home.

83. Q. How long were you at the polls?—A. I was there about one hour.

84. Q. How long have you resided in Miles City?—A. About 7 years.

85. Q. What do you believe the population of Miles City to have been in November last?—A. I should think about 2,000, including men, women, and children.

Cross-examination by THOMAS S. EDWARDS, attorney for contestee:

86. Q. What are your politics?—A. Republican. Sometimes I vote the Democratic ticket, and sometimes I vote the Republican ticket.

A. H. VAN VLIERDEN.

Subscribed and sworn to before me this 14th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

CHARLES DOUGLASS, deputy county clerk, recalled on cross-examination:

87. Q. Mr. Douglass, you may give a list of the precincts that voted in Custer County in November, 1882, and have since been taken from Custer County and placed in other counties, and which did not vote in the Custer County election in April, 1883.—A. Precinct No. 8, Junction City, Huntly, Coulson, Billings, Canyon Creek, Iron Bluff, Wooley's Ranch, Park City.

88. Q. State the number of votes cast at those precincts in November, 1882.—A. 1,086 votes.

89. Q. State the number of votes cast at Custer County in April, 1883.—A. As taken from the abstract, it appears 845 was the highest number cast for any one candidate.

90. Q. How many votes were cast for Delegate to Congress by Custer County in November, 1882?—A. 1,937 for Maginness, 953 for Botkins; making a total of 2,890.

Redirect:

91. Q. What is your occupation?—A. Book-keeper and accountant.
92. Q. Have you been employed as book-keeper in a bank?—A. Yes, sir.
93. Q. Have you been in the habit of comparing signatures and identifying handwriting?—A. Yes.
94. Q. Please look at the signatures of the judges and clerks on the poll-list of Wooley's Ranch, and see whether they are in the same handwriting.
(The foregoing question objected to for the reason it is not shown that the witness is an expert in matters of this character.)
A. I think the handwriting is the same in the entire book.
95. Q. Is it your answer to the previous question, that the handwriting purported to be the signatures of all the judges and of all the clerks of such precincts is the same?—A. Yes, sir.
96. Q. Please look at the handwriting purporting to be the signatures of the judges and clerks for the Little Porcupine precinct at the election for Delegate to Congress in November, 1882, in Custer County, and say whether it is the same.—A. I believe them to be the same.
97. Q. Is it your answer to the above question that the signatures of the judges and clerks are all written in the same hand?—A. Yes, sir.

Recross-examination:

98. Q. Mr. Douglass, how old are you?—A. 23 years.
99. Q. Mr. Douglass, state whether there is any similarity in the capital letter C of the signatures of Charles Twitchell, C. R. Edwards, and C. Frank Squires, of the Little Porcupine poll-book.—A. Yes, sir; there is a similarity.
100. Q. See if there is any similarity in the capital letter R in the names of C. R. Edwards and R. S. Russell, of said poll-book.—A. I think there is no similarity.
101. Q. State whether there is any similarity in the small letter *w* in the names of Hawkins and Edwards.—A. No, sir.

Redirect:

102. Q. Look at the general effect of the signatures upon that poll-book, and give your opinion as to whether they were all written by one person.—A. Yes, sir; I think they are all in the handwriting of one person.

CHAS. DOUGLASS.

Subscribed and sworn to before me this 16th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

A. P. FLANNAGAN, being first duly sworn, testifies as follows:

103. Q. Where do you reside?—A. Miles City, Custer County, Montana.
104. Q. Were you present at the election in Miles City for Delegate to Congress in November, 1882?—A. I was.
105. Q. Did you see any soldiers vote at such election?—A. I saw men in soldiers' clothes vote there, whom I had previously known as soldiers at Fort Keogh.
106. Q. About how many?—A. I should say there were from 80 to 100.
107. Q. Were you road supervisor for the Miles City district in 1882?—A. I was.
108. Q. How many persons paid or were taxable for the special road-tax in that district?—A. About 100.
109. Q. Were you one of the grand jurors for the district court for Custer County at the April term, 1883, of said court?—A. I was.
110. Q. Did the grand jury undertake to investigate the alleged frauds in the election in Custer County in 1882?
(The foregoing question objected to for the reason that this witness, as a member of that grand jury, made oath that he would not divulge anything of any character coming before that grand jury.)
A. For the present the witness refuses to answer the question.
111. Q. Did you make a trip to the Big Bend of the Musselshell River in the year 1882?—A. I did.
112. Q. Did you find a place there known as Wooley's Ranch?
(The foregoing question objected to for the reason that it is not shown from the records

of Custer County that there was a precinct of that name in or near the Big Bend of the Musselshell.)

A. No, sir.

113. How long have you resided in what is now Custer County?—A. Since the 17th of May, 1877.

114. Q. Do you know or have you ever heard of any town, village, or settlement known as Wooley's Ranch?—A. I have not.

115. Q. Is there any settlement on the Musselshell River bearing that name?—A. I never heard of any.

116. Q. Is there any settlement on the Little Porcupine?—A. I never heard of any, at that time or since.

Cross-examined by THOMAS R. EDWARDS, attorney for contestee:

117. Q. The 80 or 100 persons who you saw dressed in soldiers' clothing and vote at the election mentioned, do you know whether or not they enlisted in this Territory?—A. I do not know.

118. Q. From what persons, as road supervisor, do you collect special road-tax?—A. From men under 45 and over 21 years of age.

119. Q. What number of miles through Custer County does the Musselshell River run?—A. I have never been to the head of the river. To the best of my knowledge, it is from 60 to 70 miles.

120. Q. State whether or not, in your visit to the Big Bend of the Musselshell in 1882, you were over the Musselshell River for this distance of 60 or 70 miles.—A. I was not.

121. Q. State whether or not, to your knowledge, there was an election precinct, in November, 1882, on the Musselshell River in Custer County, known as Wooley's Ranch, and officially designated as No. 32.

(The foregoing question objected to for the reason that the establishment of the election precincts can be proved only by the county records.)

A. I don't know of any election held at that place.

122. Q. When were you at the Big Bend of the Musselshell in 1882?—A. On or about the 1st day of May.

123. Q. State the number of population there was on the Musselshell River in Custer County on the 1st day of May, 1882.—A. I found no population at the Big Bend.

124. Q. Are you familiar with the settlements on the Musselshell River in Montana Territory?—A. I am not. I have never heard of anything but a sheep ranch above the Big Bend; never heard of any settlement below it.

125. Q. How long since you were last on the Little Porcupine in Custer County?—A. It is over two years now.

Redirect:

126. Q. How long have you resided in Miles City or its vicinity?—A. Since 17th of May, 1877.

127. Q. What, in your opinion, was the population of Miles City in November, 1882—men, women, and children?—A. Somewhere in the neighborhood of 2,500.

Recross-examination:

128. Q. To the best of your knowledge and belief, what was the voting population of the Miles City election precinct in November, 1882?—A. 700 to 800.

129. Q. What is your political creed?—A. I was running independent, and using both tickets.

A. P. FLANAGAN.

Subscribed and sworn to before me this 16th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

A. P. FLANNAGAN recalled on examination-in-chief:

130. Q. Did the grand jury of the district court, at the April term, 1883, undertake the investigations of alleged frauds in the election of November, 1882?

(The foregoing question objected to for the reason that this witness, as a member of that grand jury, made oath that he would not divulge anything of any character coming before that grand jury.)

A. They did.

131. Q. Did they call upon the county clerk for the poll-books of the several precincts of Custer County?—A. They did.

132. Q. Were the poll-books all produced and exhibited to the grand jury?—A. They were not.

133. Q. What poll-books were not so produced?—A. I never the poll-books for Wooley's Ranch or Little Porcupine.

134. Q. Did the grand jury ask for all the poll-books?—A. They did.

135. Q. Did the grand jury issue subpœnas for Charles Twitchell, Williams Hawkins, C. R. Edwards, C. Frank Symes, or Squires, R. S. Russell, John Wooley, Mike Duffy, Joe Gibson, Frank S. Evans, James Lloyd?—A. They ordered the issuance of subpœnas for those parties.

136. Q. Did the witnesses named, or any of them, appear before the grand jury?—A. No.

Cross-examined by THOMAS R. EDWARDS, attorney for contestee:

137. Q. Who was county clerk at the time the grand jury was in session?—A. I don't know.

138. Q. How many persons, prior to your taking the witness-stand here, have you made similar statements of the proceedings of the grand jury?—A. I refuse to answer the above question.

139. Q. Have you made similar statements to other persons prior to your taking the witness-stand here?—A. I refuse to answer.

140. Q. Have you made a similar statement to Alexander C. Botkin, the contestant, prior to taking the witness-stand here?—A. No, sir.

141. Q. Have you made similar statements to J. W. Strevell or Andrew F. Burleigh prior to taking the witness-stand here?—A. No, sir.

A. P. FLANAGAN.

Subscribed and sworn to before me this 16th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

CHARLES DOUGLASS, deputy county clerk, recalled, in chief:

142. Q. Please examine the poll-books, and say who were the judges and clerks of the Wooley's Ranch and Little Porcupine precincts, in Custer County, at the November election, 1882.—A. At Wooley's Ranch, the judges were John Wooley, Mike Duffy, Joe Gibson; clerks, Frank S. Evans and James Loyd. At Little Porcupine, the judges were Charles Twitchell, William Hawkins, and C. R. Edwards; clerks, C. Frank Symes and R. S. Russell.

CHAS. DOUGLASS.

Subscribed and sworn to before me this 16th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

W. E. SAVAGE, being first duly sworn, testified as follows:

143. Q. Were you deputy and acting clerk of the district court for Custer County at the April term, 1883?—A. Yes, sir.

144. Q. Were subpœnas issued at said term for Chas. Twitchell, C. R. Edwards, William Hawkins, R. S. Russell, C. F. Lyman, and John Wooley?—A. Yes, sir.

145. Q. What was the return upon said subpœnas?—A. They could not be found.

Cross-examined by THOMAS R. EDWARDS, attorney for contestee:

146. Q. State if it a fact of your knowledge from the records of your office that a subpœna was issued for John Wooley.—A. No, sir.

Redirect:

147. Q. Was not a paper purporting to be a subpœna for John Wooley issued from your office and delivered to the sheriff, and returned by him as a subpœna?—A. Yes, sir.

148. Q. What was his return?—A. He could not find him.

W. E. SAVAGE.

Subscribed and sworn to before me this 16th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

DAVID O. SWEET, being first duly sworn, testified as follows:

149. Q. How long have you lived in Custer County?—A. Five years.

150. Q. Have you ever been to the Big Bend of the Musselshell?—A. Yes, sir.

151. Q. When were you last there?—A. One year ago last December.
152. Q. Was there any town, village, or settlement at the Big Bend?—A. No, sir.
153. Q. Do you know of any place on the Musselshell known as Wooley's Ranch?—A. No sir; I do not.

Cross-examined by THOMAS R. EDWARDS, attorney for contestee:

154. Q. What business are you engaged in?—A. Farming, at Short Creek.
155. Q. What is the Musselshell country principally used for?—A. I suppose it is used for stock-growing.
156. Q. A great number of stock-men and hunters, residents of this Territory, frequent the Musselshell country, do they not?—A. There were none at the Big Bend when I was there. I am not acquainted with that country.
157. Q. Were you acquainted with the Musselshell country in this county in November, 1882?—A. No, sir; I was not.
158. Q. From your own knowledge, can you say there was no place on the Musselshell River in Custer County, in November, 1882, known as Wooley's Ranch?—A. I don't know.
159. Q. What are your politics?—A. Democratic.

D. O. SWEET.

Subscribed and sworn to before me this 16th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

THOMAS H. IRVINE, being first duly sworn, testified as follows:

160. Q. How long have you resided in Miles City and vicinity?—A. Since April, 1877.
161. Q. What official position have you held?—A. Sheriff, and ex-office assessor. I am now deputy assessor.
162. Q. Are you acquainted with the valley of the Musselshell in Custer County?—A. I was well acquainted with it two or three years ago.
163. Q. Do you know of any such place or settlement as Wooley's Ranch?—A. I do not.
164. Q. Is there any town, village, or settlement on the Big Bend of the Musselshell?
(The foregoing question objected to for the reason that it has not been shown by the records of Custer County that there was ever an election precinct or voting place established at said Big Bend of the Musselshell.)
A. Not to my knowledge.
165. Q. Is there any town, village, or settlement at the Little Porcupine?—A. One year ago there was no town or village, but there was a few settlers at the mouth of the Little Porcupine.
166. Q. How many settlers?—A. About fifteen different ranches, taking in a scope of country about 15 miles each way from the mouth of the Little Porcupine.
167. Q. What, in your opinion, was the population of Miles City in November, 1882?—A. I presume between 2,000 and 2,500.
168. Q. Please look at that book, and tell me what it is.—A. Poll-book No. 2, of the Miles City precinct, at the election for Delegate for Congress in 1882.
169. Q. Have you examined the names on that book?—A. I have, sir.
170. Q. Do you recognize them as the names of any persons who resided in Miles City in November last?
(The foregoing question objected to for this reason: That whilst the witness may not be acquainted with the names in the book mentioned, and they may not have been residents of Miles City, yet they may have been residents of the Territory of Montana, and entitled to cast their votes for Delegate to Congress at the Miles City election precinct.)
A. I don't recognize the names of only four or five of them.
171. Q. How many names are there in that book?—A. I think there is 420.
172. Q. Of that number you only recognize the names of four or five as residents of Miles City?—That is all. I don't know that they were residents.
173. Q. Were you present at the election for Delegate for Congress in November last?—A. I was.
174. Q. Did you see any soldiers vote at that election?—A. I saw men dressed in soldiers' clothing vote there.
175. Q. About what number?—A. I was not there all the time. I saw about 25.

Cross-examined by THOMAS R. EDWARDS, attorney for contestee:

176. Q. Mr. Irwin, were there not a great number of persons, citizens of Custer County not living in Miles City precinct, voting at said precinct at the November election in 1882?—A. I saw a few that I knew were not residents of this precinct vote here.

177. Q. May there not have been a number of others vote without your knowledge?—A. There could have been a great many others voting without my knowledge.

178. Q. Could there not have been quite a settlement or town or towns on the Musselshell River in Custer County, in November, 1882, and you have no personal knowledge of the same?—A. Yes. I could not have any personal knowledge of it.

179. Q. Could there not have been quite a settlement or town or towns on the Little Porcupine in Custer County, in November, 1882, and you have no personal knowledge of the same?—A. There could have been.

180. Q. What official positions do you now have?—A. Deputy United States marshal, deputy sheriff, and deputy assessor.

Redirect:

181. Q. Do you know Charles Twitchell?—A. Yes, sir. He resides at the Little Porcupine.

182. Q. Do you know John Wooley, Mike Duffy, Joe Gibson, Frank S. Evans, or Loyd?—A. I do not.

183. Q. Did you ever hear of such persons as residents of Custer County?—A. I never did.

Cross-examined:

184. Q. These persons could be residents of Custer County without your knowing it?—A. Yes, sir; and several other citizens.

THOS. H. IRVINE.

Subscribed and sworn to before me this 16th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

A. H. VAN VLIERDON recalled, in chief:

185. Q. What is the book that you have in your hand?—A. It purports to be a poll-book, No. 2, of Miles City precinct, at the November election, 1882.

186. Q. How many names are there in that book?—A. 420 names.

187. Q. Do you recognize any of the persons named as residents of Custer County in November last?—A. I have looked these names all over, and I find six as parties that I know. The rest I do not know; I never heard of them.

Cross-examination:

188. Q. Could not all these persons mentioned in Poll-book No. 2 have been citizens of Custer County in November, 1882, without your knowledge?—A. They might have been scattered in remote parts of the county, but they could not have resided here. There is no precinct in the county but where I would not recognize more names.

(Counsel for contestee asks for a direct answer, and refuses he to give it.)

A. H. VAN VLIERDEN.

Subscribed and and sworn to before me this 16th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

L. A. HUFFMAN, being first duly sworn, testified as follows:

189. Q. Were you a member and clerk of the grand jury of the district court of Custer County at the April term, 1883?—A. Yes, sir.

190. Q. Did the said grand jury undertake the investigation of alleged frauds at the election in November, 1882?

(The foregoing question objected to for the reason that this witness, as a member of the grand jury, made oath that he would not divulge anything that transpired before said grand jury.)

A. The grand jury did attempt to investigate the alleged frauds of the election in November, 1882.

191. Q. Did they order subpœnas to be issued for the judges and clerks of the Wooley Ranch and the Little Porcupine precincts, in Custer County?

(The foregoing question objected to for the reason that the records in the district court clerk's office is the best evidence.)

A. I think subpœnas were issued, to the best of my recollection.

192. Q. Did said judges and clerks, or any of them, appear before the grand jury?—A. To the best of my recollection, they did not.

Cross-examined by THOMAS R. EDWARDS, attorney for contestee:

193. Q. How do you know subpœnas were issued for these judges and clerks?—A. I will swear they were ordered issued by the grand jury. I was present when they were delivered to the sheriff, and I was present when the sheriff returned and reported they could not be found.

194. Q. How long after the subpœna had been placed in the sheriff's hands did he return and report they could not be found?—A. To the best of my recollection, it was between three and four days; maybe a day longer.

195. Q. Are you certain it was three or four days, or are you trusting to memory?—A. I have to rely on my memory.

196. Q. Do you swear there was a subpœna issued for John Wooley?—A. To the best of my recollection, there was.

197. Q. Do you swear there was a subpœna issued for Mike Duffy?—A. No; I can't swear to that.

198. Q. Do you swear there was a subpœna issued for all the judges and clerks for the election at Wooley's Ranch?—A. I can't swear that there was.

199. Q. Can you swear that there was a subpœna for any one of them?—A. Yes; I can.

200. Q. Did you see the clerk of the district court issue a subpœna for any one of them, or all?—A. No; I did not.

201. Q. Then how do you know that a subpœna was issued for them, or any one of them?—A. I know as well as I would know of any other subpœna was issued, or ordered issued by the grand jury.

202. Q. Then you state this only as your opinion and belief?—A. I suppose that is the way it would be put up. Yes.

203. Q. Mr. Huffman, examine that, and say if it is the subpœna you saw.—A. I presume it is.

204. Q. Examine this subpœna, and see if there is a date or signature of the clerk of the court, or seal of the court attached to the same.—A. I do not see the clerk's signature or seal. I see there is a date in one place; 1883.

205. Q. See if that is a date to that subpœna.—A. This paper shows me that it was issued in the year 1883.

206. Q. Is there any date in connection with these words: "Given under my hand and the seal of said court, at Miles City, this —— day of ———, A. D. 18—."—A. No.

207. Q. Examine the subpœna again, and state whether or not there is a date to the sheriff's return.—A. No; there is not.

208. Q. Examine the subpœna once again, under the heading of sheriff's fees, and state whether or not the sheriff has charged mileage for serving said subpœna?—A. It appears here there is a total of 50 cents; there is no charge for mileage.

209. Q. How far is it to the Musselshell River, in Custer County?—A. Between 100 and 200 miles.

Redirect:

210. Q. Did the grand jury order the issuance of subpœnas for the judges and clerks for the two election precincts named?—A. To the best of my recollection and belief, they did.

211. Q. Examine again the paper purporting to be the subpœna for John Wooley, and say what return was made by the sheriff.—A. I cannot find the said John Wooley.

L. A. HUFFMAN.

Subscribed and sworn to before me this 17th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

T. J. BRYAN, being first duly sworn, testifies as follows:

212. Q. Where do you reside?—A. Miles City, Custer County, Montana.

213. Q. What is your official position?—A. Chairman of the board of county commissioners, Custer County.

214. Q. What is that book?—A. Poll-book No. 2, of the Miles City precinct, for the November election, 1882.

215. Q. How many names are there in that poll-book?—A. 420 names.

216. Q. Have you examined those names?—A. I have.

217. Q. Do you recognize them, or any of them, as the names of persons who were citizens of Custer County in November, 1882?—A. I do, a few of them.

218. Q. How many do you so recognize?—A. Less than a dozen.

219. Q. How long have you resided in Miles City or vicinity?—A. About two years, or a little over.

220. Q. What, in your opinion, was the population of Miles City, in November, 1882—men, women, and children?—A. In my opinion, it was less than 1,800.

Cross-examination by THOMAS R. EDWARDS, attorney for contestee:

221. Q. May not all the persons named in Poll-book No. 2 have been citizens of Custer County in November, 1882, without your knowledge?—A. Yes; but not of the Miles City precinct.

THOS. J. BRYAN.

Subscribed and sworn to before me this 17th day of July, 1883.

——— ———.

N. BORCHARDT, being first duly sworn, testified as follows:

222. Q. Where do you reside?—A. Miles City, Custer County, Montana.

223. Q. What is your official position?—A. Postmaster.

224. Q. Please look at that book, and say what it is.—A. Poll-book No. 2, of the Miles City precinct, at the November election, 1882.

225. Q. How many names are there on that poll-book?—A. 420 names.

226. Q. Have you examined them?—A. I have.

227. Q. Do you recognize them, or any of them, as the names of persons who were citizens of Custer County in November, 1882?—A. I do.

228. Q. How many do you so recognize?—A. About 50.

229. Q. The others you do not recognize?—A. Yes, I do; some of them.

230. Q. Of the men whose names you recognize on that poll-book, did all reside at Miles City in November, 1882?—A. No, sir.

231. Q. About how many did so reside?—A. About 50.

232. Q. How long have you resided in Miles City or vicinity?—A. Since 1875.

233. Q. What, in your opinion, was the population of Miles City in November, 1882—men, women, and children?—A. About 1,500.

Cross-examination:

234. Q. What was the length of Custer County in November, 1882, from east to west and from north to south?—A. About 315 miles from east to west, and from north to south about 100 miles or 150 miles.

235. Q. What was the population of Custer County in November, 1882?—A. Between 2,500 or 3,000, including men, women, and children.

N. BORCHARDT.

Subscribed and sworn to before me this 17th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

D. W. RINGER, being first duly sworn, testified as follows:

236. Q. Were you in the valley of the Musselshell, in Custer County, in the year 1882?—A. I was.

237. Q. At what point or points?—A. At the crossing of the river below the Big Bend.

238. Q. Did you see, or do you know of, any place called Wooley's Ranch?

(The foregoing question was objected to for the reason that it has never been shown that Wooley's Ranch precinct, No. 32, is located on the Musselshell River.)

A. I do not.

239. Q. To the best of your knowledge and belief, was there any town, village, or settlement in Custer County in 1882 known as Wooley's Ranch?—A. There was none that I know of.

Cross-examination:

240. Q. When were you on the Musselshell last?—A. In April, 1882.

241. Q. For what distance up and down that stream were you from the place where you crossed it?—A. Not over two miles both ways.

242. Q. Can you safely say, at the point where you crossed the river, it was in Custer County?—A. I could not. I do not know except from hearsay.

243. Q. Do you know that there were no towns, villages, or settlements on the Musselshell River, in Custer County, in November, 1882?—A. There were none to my knowledge.

244. Q. Could there not have been and you have no personal knowledge of them?—A. Yes; there might have been.

245. Q. Do not towns and villages spring and grow up in the Territory of Montana very rapidly?—A. I should judge they did.

246. Q. What is your knowledge of the Musselshell country as to its being used by stock-men and frequented by hunters?—A. I don't know; I did not see any stock-men or hunters at the time I crossed the river. There was an old house there, but it was unoccupied.

Redirect:

247. Q. Could you name the settlements in Custer County in November, 1882, having a population of 300 or upwards?—A. I think I could.

248. Q. Was there any such a settlement known as Wooley's Ranch?—A. There was not.

D. W. RINGER.

Subscribed and sworn to before me this 17th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

WILLIAM H. BULLARD, being first duly sworn, testified as follows:

249. Q. Where do you reside?—A. Miles City, Custer County, Montana.

250. Q. What is your official position?—A. County commissioner of Custer County.

251. Q. What is that book before you?—A. Poll-book No. 2, of Miles City precinct, November election, 1882.

252. Q. How many names are there in that book?—A. 420 names.

253. Q. How many of the names, if any, do you recognize as names of citizens of Custer County in November, 1882?—A. About five or six. I see the name of one man who was dead at that time.

254. Q. How long have you resided in Miles City or vicinity?—A. Since the spring of 1877.

255. Q. What, in your opinion, was the population of Miles City in November, 1882—men, women, and children?—A. I suppose about 2,000 or 2,500; or it might run up to 3,000.

256. Q. What, in your opinion, was the number of qualified voters in Miles City in November, 1882?—A. I don't think it could possibly exceed 800.

Cross-examined:

257. Q. Who was the dead man?—A. Tom Quigley. He is reported dead.

258. Q. Who are the absentees to whom you refer?—A. Dick Kennedy, Will Wright, Hugh McMillan, Joe Johnson, Matt Hermas. These men have left the country. New men of the same name may have come into the county.

259. Q. What was the pupulation of Custer County in November, 1882—men, women, and children?—A. I suppose about 6,000; maybe more.

Redirect:

260. Q. In your answer to the last question do you include transient population and those who had come for temporary employment on the railroad?—A. Yes.

261. Q. Excluding those referred to in the above question, what, in your opinion, was the population of Custer County in November, 1882?—A. I should think from 4,000 to 4,500.

W. H. BULLARD.

Subscribed and sworn to before me this 18th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

It is admitted by the parties hereto that the whole number of votes cast for sheriff in Custer County in November, 1882, was 2,854.

Here the contestant announces his case as closed, and rests.

SCHEDULE A.

Certified copy of the abstract of the vote for Delegate to Congress, as canvassed by James B. Hubble, D. A. Robertson, and W. W. Carland, the 24th day of November, 1882.

OFFICE OF COUNTY CLERK AND EX-OFFICIO COUNTY RECORDER OF THE COUNTY OF CUSTER.

TERRITORY OF MONTANA,
County of Custer, ss:

I, James H. Garlock, county clerk and *ex-officio* county recorder of the county of Custer, in the Territory of Montana, do hereby certify that the annexed is a correct transcript from the abstract of the vote for Delegate to Congress, as canvassed the 24th day of Nov., 1882, now remaining on file in this office, together with the several endorsements thereon contained.

In witness whereof I hereunto set my hand and the seal of the said county, this 14th day of July, in the year one thousand eight hundred and eighty-three.

[SEAL.]

JAMES H. GARLOCK,
County Clerk and ex-officio County Recorder,
By CHAS. DOUGLASS,
Deputy County Clerk.

Abstract of votes for Delegate to Congress.

Election precincts.	For Delegate to Congress.	
	Martin Maginnis.	Alex. C. Botkin.
1. Miles City	867	3
2. Prince's Ranch, ("thrown out")		
3. Bull Creek	9	
4. Rosebud, "Simpson's house"		
5. Big Porcupine, ("no election")		
6. Froze to Death	14	
7. Etchetah	22	
8. Junction City	31	
9. Huntley	55	
10. Coulson	39	
11. Billings	303	
12. Canyon Creek	11	
13. Young's Point, ("no election")		
14. Forsythe	69	
15. Rosebud, "south side Yellowstone"	14	
16. Lame Deer Creek	12	
17. Graveyard Bottom	25	
18. Neal's Ranch, ("thrown out")		
19. Liscomb Ranch	3	
20. Sharp's Ranch	2	
21. Tongue River Tie Camp, (no election)		
22. Lay's Ranch, ("no election")		
23. Gutgesell's Ranch	4	
24. Little Missouri, ("thrown out")		
25. Deadwood Crossing, Powder River	18	
26. Woodliff's Ranch	35	
27. Powder River, Townsend ranch, (no election)		
28. Terry	28	
29. O'Fallon Creek	11	
30. Iron Bluffs	27	
31. Government Saw-Mill	22	
32. Wooley's Ranch, "Musselshell"	113	
33. Little Porcupine	58	
34. Upper Crossing, Musselshell, ("no election")		
35. Birney	22	
36. Milton	55	
37. Park City	68	
	1,937	

: OF MONTANA,
County of Custer, ss:

undersigned, composing the canvassing-board of Custer County, Montana or the year 1882, hereby certify that the above is a full, true, and correct the returns of the vote cast in the said county of Custer for Delegate to Con- several election precincts where elections were held, as canvassed by us. our hands and seals this 24th day of November, A. D. 1882.

J. B. HUBBELL, [SEAL.]
Ch'n B'd Co. Commiss'rs Custer Co., M. T.
D. A. ROBERTSON, *J. P.* [SEAL]
W. W. CARLAND, [SEAL.]
Treas. Custer Co., M. T.

SCHEDULE B.

Poll-book, Precinct No. 32, Wooley's Ranch, on the Mussellshell.

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. Young.

38. G. R. Sweet.
39. Frank Lason.
40. William A. James.
41. James S. Mitchell.
42. R. J. Mitchell.
43. George Burck.
44. Frank Budget.
45. A. F. Budget.
46. Peter Samson.
47. James H. Judson.
48. Fred. R. Foster.
49. F. H. Babbitt.
50. Edgar Wood.
51. R. T. Linder.
52. Frank Rowand.
53. James Rowand.
54. George Sandborn.
55. F. K. Sandborn.
56. Frank E. Prince.
57. Andrew Rowand.
58. Sam. A. Prince.
59. William Slawson.
60. George Slawson.
61. Robert Wilcox.
62. Fred. O. Wilcox.
63. Charles Pond.
64. William R. Twitchell.
65. George E. Sweet.
66. Johnson Lawrence.
67. T. R. Powell.
68. C. H. Roder.
69. Frank E. Lawrence.
70. John Mitchell.
71. William Pond.
72. George E. Slag.
73. Frank Fox.
74. Lewis Fox.
75. T. R. Stevenson.

76. Lance Morrow.
77. George Wilcox.
78. Lewis Simpson.
79. Ed. Malone.
80. Frank Brookes.
81. John Brookes.
82. Lawrence Simpsond.
83. William Banegh.
84. Charles R. Streigle.
85. William Streigle.
86. Mike Stag.
87. George Rhodes.
88. Fred. Rumdson.
89. Henry H. Lewis.
90. Henry Sweetser.
91. James Balck.
92. Fred. T. Wilson.
93. J. A. Wilson.
94. T. F. Russell.
95. George Shumack.
96. Joseph Donegan.
97. William Shumack.
98. Willston Phillips.
99. Frank Gee.
100. Charles Russell.
101. John Mann.
102. Logan Howard.
103. Frank Moore.
104. Charles Phillips.
105. R. E. Eastman.
106. M. F. Dunkin.
107. George R. Hogan.
108. Robert A. Wilcherought.
109. Lewis Howard.
110. J. J. Sampson.
111. Michael Hogan.
112. T. J. Powers.
113. Fritz Lunigan.

MIKE DUFFY,
JOHN WOOLEY,
JOE GIBSON,
Judges.
FRANK S. EVANS,
JAMES LOYD,
Clerks.

: OF MONTANA,
County of Custer, ss:

H. Garlock, county clerk of Custer County, do hereby certify that the within d correct copy of the names of the voters and of the judges and clerks of

election of Precinct No. 32, as it appears in the poll-book of said precinct, now remaining of record in this office.

Witness my hand and the seal of Custer County this 28th day of July, A. D. 1883.

[SEAL.] JAMES H. GARLOCK,
County Clerk,
By CHAS. DOUGLASS,
Deputy C. Clerk.

(Indorsement:) Certified copy of poll-book of Precinct No. 32, Wooley Ranch.

SCHEDULE C.

Abstract of votes cast at a special election, held on the 3d Monday in April, A. D. 1883, for the election of county commissioners of Custer County, according to the provisions of an act of the legislative assembly of the Territory of Montana, entitled "An act relative to the offices of county commissioners of Custer County."

TERRITORY OF MONTANA,
County of Custer, ss:

I hereby certify that the within abstract of votes was filed in this office on the 2d day of May, A. D. 1883, at 4.30 p. m.

JAMES H. GARLOCK,
County Clerk and Clerk Board Commissioners.

OFFICE OF COUNTY CLERK AND EX-OFFICIO COUNTY RECORDER OF THE COUNTY OF CUSTER.

TERRITORY OF MONTANA,
County of Custer, ss:

I, James H. Garlock, county clerk and *ex-officio* county recorder of the county of Custer, in the Territory of Montana, do hereby certify that the annexed is a correct transcript from the original abstract of the vote for county commissioners, as canvassed the 2d day of May, 1883, now remaining on file in this office, together with the several endorsements thereon contained.

In witness whereof I hereunto set my hand and the seal of the said county, this 14th day of July, in the year one thousand eight hundred and eighty-three.

[SEAL.] JAMES H. GARLOCK,
County Clerk and ex-officio County Recorder,
By CHAS. DOUGLASS,
Deputy County Clerk.

Abstract of the vote for county commissioners of Custer County.

Election precincts.	Alonzo McNeill.	Thos. J. Bryan.	Wm. H. Bullard.	C. W. Anderson.	Louis Bayette.	Gus. Malden.	McNeill.	Bayette.	J. S. Crosby.	Col. Saunders.	J. H. Hubbell.
1. Miles City	95	420	390	430	4	1	2	2	3	3	1
2. House of Henry Davis		18	16	18	2						
3. No returns											
4. No returns											
5. Thrown out											
6. House of Thos. J. Bryan	12	68	56	68							
7. House of E. K. Davis	1	89	88	92							
8. Section-house, Dixon	6	123	117	123							
9. House of Alonzo McNeill	11	11	1	12	1						
10. Terry section-house	9	24	15	24							
11. House of G. E. Cutler	15	23	9	24	1						
12. No returns											
13. House of Sharpe McDowell		22	22	22							
14. No returns											
15. No returns											
16. House of John Lynch		12	11	12							
17. No returns											
18. No returns											
19. House of E. S. Newman		20	20	20							
20. No election held											
Total	149	839	745	845	8	1	2	2	3	3	1

TERRITORY OF MONTANA,
County of Custer, ss:

We, the undersigned, composing the canvassing-board of Custer County, Montana Territory, hereby certify that the above is a true, full, and correct abstract of the returns of the votes cast in the said county of Custer, at the several precincts of said county, at the special election held on the 16th day of April, 1883, for the purpose of electing county commissioners of said county, as canvassed by us.

Witness our hand and seal this 2d day of May, 1883.

WM. VAN GASKEN, [SEAL.]
Chairman Board Co. Com'rs.
RICHARD E. STOWER, [SEAL.]
County Treasurer, M. T.
CHAS. WALKER,
Probate Judge.

In the matter of the contest for Delegate to the 48th Congress from Montana Territory.

ALEXANDER C. BOTKIN
vs.
MARTIN MAGINNIS.

It is hereby stipulated by and between the parties to this contest, that the contestee shall commence taking testimony at Miles City, in Custer County, in Montana Territory, on the 18th day of July, 1883, and continue from day to day (over Sundays) until the same shall be completed for said Custer County, and that the same shall be taken before the clerk of the probate court (the same being a court of record) of said Custer County, and that notice of the taking of such testimony by contestee is hereby waived by contestant. And it is further stipulated by the said parties, that the time so occupied or taken by said contestee in the taking of such evidence shall in no wise be computed as a part of the time allowed the contestant for the taking of evidence in this contest.

ALEX. C. BOTKIN.
TH. R. EDWARDS,
Att'y for Contestee.

TERRITORY OF MONTANA,
County of Custer, ss:

I, W. B. Towne, clerk of the probate court in and for said county, do hereby certify that the above and foregoing is a full, true, and correct copy of the stipulation for contestee in the matter of the contested election for Delegate to the 48th Congress for Montana Territory, wherein Alexander C. Botkin is contestant and Martin Maginnis is contestee.

In witness whereof I have hereunto set my hand and official seal, this 23d day of July, A. D. 1883.

[SEAL.]

W. B. TOWNE,
Clerk of the Probate Court.

In the matter of the contested election for Delegate, 48th Congress, for Montana Territory.

ALEXANDER C. BOTKIN
vs.
MARTIN MAGINNESS.

TERRITORY OF MONTANA,
County of Custer, ss:

CHARLES G. COX, being first duly sworn, was examined by Thomas R. Edwards, attorney for contestee, in person, and the questions propounded to him and the answers thereto are as follows:

1. Q. Captain Cox, where do you reside?—A. Miles City, Custer County, Montana; I have lived here about four years.

2. Q. Were you present at Miles City at the general election held on the 7th of November, 1882?—A. I was.

3. Q. You may state generally if you know how said election at said Miles City was conducted as to order, quietness, and peace.—A. There was no disorder, in all the essentials of peace and quiet; nothing occurred during the day that was objectionable. There was no disturbance or disorder. The town was tranquil, and it was not an incorporated town; and I never saw an election that was more orderly or more fairly conducted. I was present in Miles City during the entire day.

4. Q. State what official position you now occupy in the Territory of Montana.—A. I am a member of the council of the legislative assembly.

5. Q. Were you or not familiar with the population of Miles City on the day of election; and, if so, state, in your opinion, what it was, and of what class of people it consisted of.—A. I was. On that day, to the best of my knowledge, I should say that the population of Miles City, including men, women, and children and the transient and permanent population, was from 2,500 to 3,000. It was constituted primarily of the permanent residents, and was increased to a considerable extent by the hunters and cattlemen, the civil employees of the Government at Fort Keogh, and to some extent the soldiers of that garrison and the lumbermen, and to some extent the laborers on the irrigating-ditch; also, laborers of the Northern Pacific Railroad.

6. Q. State whether or not you were a candidate for office at that election. If so, what office, and on what ticket were you running?—A. I was a candidate for the council of the legislative assembly, on the Democratic ticket.

7. Q. State what means you had, if any, of judging accurately of the number of legal votes cast at the Miles City precinct on that day.—A. I was secretary of the Democratic county central committee. Knew the people of Miles City and surrounding country well; and I knew the judges of election thoroughly, and observed with attention the manner of voting and in which they performed their duty.

8. Q. You may now state whether or not, in your opinion, the number of votes cast at said election at said Miles City precinct exceeded the number of qualified electors of said precinct.—A. They did not.

9. Q. You may now state, if you know, of whom these electors consisted.—A. In a previous answer I described the population of Miles City on the day of election, and the electors were from that body of the people, as I so characterized them. They were hunters and the permanent people, cattle-men, lumbermen, civil employees of the Government, all, in my judgment, residents and qualified voters of Miles City.

10. Q. You may state, if you know, whether or not the polls of Miles City were well protected from illegal voting by gentlemen who were there placed by both parties to challenge all supposed illegal voting.—A. They were, and, in addition to citizens of Miles City, Major Brisbin, of the Army, was present and took notice of the vote of the soldiers. After the band of the 5th Infantry, from Fort Keogh, which was employed by the Republican sheriff and his friends, had voted, as I recollect it, every soldier's vote was challenged, and every soldier was sworn and checked on the tally-sheet.

11. Q. State what efforts were made by the Democratic central county committee and friends of their party to secure a full vote.—A. Every effort in its power was made. The county was thoroughly canvassed, and couriers were sent out to the hunting and stock ranges and up and down all the water-courses, and temper and political disposition of every voter in the county was known. And I am prepared to say, on my own part, that we forecasted, as a committee, the general result.

12. Q. You may state, if you know, what were the dimensions of Custer County in November, 1882.—A. I should say that it was about 300 miles long by 200 miles wide; but I can't speak accurately.

13. Q. Were you acquainted generally with the population of Custer County at that time? And if so, state what it was in numbers.—A. I think I was. I canvassed the county in company with Mr. Maginness and by myself. I spoke in every settlement of relative importance, and some that was not; and, in my judgment, including all classes of population to which I have referred, from at least 8,000 to 10,000 people reside in the county, and I think that more than a third of them were men of adult age.

14. State, if you know, what is the relative voting population of Montana Territory in comparison with that of such States as Ohio, Illinois, New Hampshire, New York, and other older States.—A. The ratio of voters to the population is very much in excess in Montana and other frontier communities over the States referred to. The people of Custer County in November, 1882, were by a very large majority adults, men and troops, as distinguished from the western and central portions of the Territory, which are older communities.

15. Q. State what is the population of Custer County to-day in comparison with that of November, 1882.—A. Since the general election of 1882, the county of Yellowstone has been created out of Custer County. In my judgment, perhaps half of the people of the important towns of Billings and Junction City went from Miles City there, and I should say that a third of the people of Livingston had moved from Miles City and Custer County there, and I judge that the loss to Custer County in population by reason of the creation of the new county of Yellowstone would be, including the people who have gone to Bozeman, from 1,000 to 2,000, principally men adults.

CH'S G. COX.

Subscribed and sworn to before me this 19th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

JAMES FERGUSON, being first duly sworn, testified as follows:

16. Q. You may state where you reside.—A. Billings, Yellowstone County, Montana.

17. Q. State whether or not the voting precincts of Junction City, Huntly, Coulson, Billings, Canyon Creek, Park City, were in the county of Custer in the November election of 1882, and are since, by legislative enactment, a part of the Yellowstone County, and voted in said Yellowstone County on the 2d Monday of April, 1883.—A. Yes. All those precincts you have named were in Custer County in November, 1882, and February those precincts were set apart as part of Yellowstone County.

18. Q. State whether or not you were a candidate for office in Yellowstone County in April, 1883. If so, upon what ticket and for what office?—A. I was a candidate for sheriff for Yellowstone County, on the Democratic ticket, April, 1883.

19. Q. State what proportion of the vote of Yellowstone County was cast in the precincts named.—A. About 1,200 votes cast in Yellowstone County.

20. Q. Of the 1,200 votes cast in Yellowstone County in April last, how many were cast altogether in Junction City, Huntly, Coulson, Billings, Canyon Creek, and Park City?

(The foregoing question objected to for the reason that the records of the said county of Yellowstone are the best evidence of the votes cast in said county.)

A. I think they cast between 800 or 900 votes.

21. Q. State, if you know, which political party, Democratic or Republican, carried said election in Yellowstone County in April last.—A. Democratic party elected the entire ticket with the exception of one man, Mr. Lee, for county commissioner, which was a combination of both parties to elect Mr. Lee county commissioner.

22. Q. State, if you know, what was the average majority of the Democratic nominees at that election.—A. As far as I can recollect, from 250 to 450.

Cross-examination:

23. Q. Were you present at the election for the Delegate to Congress in November, 1882, at Billings, Custer County, Montana?—A. I was.

24. Q. Was there or was there not a considerable number of employees of Northern Pacific Railroad who voted at that precinct at that election?—A. I cannot tell you what those men were employed in.

25. Q. Whom did the agents, contractors, bosses, and sub-bosses, and employees of the Northern Pacific Railroad generally support for Delegate to Congress at the election November 7th, 1882?

(The foregoing question objected to for the reasons that it is not a subject-matter of examination, and it has not been shown that the witness knows.)

A. I cannot tell you who they voted for.

26. Q. Were there a considerable number of men who voted at such election who were directly or indirectly employed in the construction or operation of the Northern Pacific Railroad?—A. I don't think there were.

27. Q. Look at that book and say what it is.—A. Poll-book. It contains the names of the vote cast at the Billing's precinct, Custer County, in November, 1882.

28. Q. Do you know Wm. B. Burke?—A. I do.

29. Q. Are you well acquainted with him?—A. I have seen him several times.

30. Q. What was his employment in November, 1882?—A. If it is the same man, he was in the livery business.

31. Q. What was the color of his hair?—A. Don't know.

32. Q. What was the color of his eyes?—A. I don't know.

33. Q. About how high was he?—A. About 5 feet 8 inches high.

34. Q. Do you know George Allingham?—A. I do.

35. Q. What is the color of his hair?—A. Dark-brown.

36. Q. How was he employed?—A. I don't know what employment he was in; he had some property there.

37. Q. Do you know Wm. J. Lutz?—A. I do.

38. Q. What employment was he in?—A. He was employed by Mrs. J. D. Russell, and owns a saloon now.

JAS. FERGUSON.

Subscribed and sworn to before me this 18th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

CHARLES G. COX cross-examined:

39. Q. Are you or have you been one of the counsel for the contestee?—A. No, sir. I am here as a citizen, and because Col. Edwards, the attorney for the contestee, lives at a remote distance from here, and is not personally acquainted with our people.

40. Q. Have you or have you not assisted in the examination or cross-examination of witnesses on the part of the contestee?—A. Yesterday, while the attorney of the contestee was writing a letter upon his official affairs, I took notes of the testimony as a matter of personal accommodation to him. That is the extent of my connection with this matter, excepting my testimony. I asked some questions of the witnesses at the direction of Col. Edwards.

41. Q. In your answer to the questions-in-chief, did you or did you not use any written memoranda?—A. While upon the stand, I wrote down for my own benefit simply the classifications of the voters and our permanent society. In no other sense did I speak from the memoranda.

42. Q. Did you or did you not, during your examination-in-chief, exchange notes, minutes, promptings, or memoranda with Mr. Edwards, attorney for contestee?—A. I did not exchange any notes with Mr. Edwards. I passed him a paper which contained five or 10 lines of writing, which related simply to the classification of voters, and I did this because the conditions of society in the upper country and in the older communities in this Territory were different from those that prevailed in Custer County; and all that I put upon paper were suggestive to myself rather than to any one else.

43. Q. In your examination-in-chief you said: "I canvassed the county (meaning Custer County) in company with Mr. Maginness and by myself. I spoke in every settlement of any importance." Referring to that answer, please state when you spoke at Wooley's ranch.

(The foregoing question objected to for the reason that it has not been shown that Wooley's ranch is an important settlement.)

A. I never spoke at Wooley's ranch. In my answer-in-chief as to important places, I spoke at public meetings along the line of the Northern Pacific Railroad, in company with Mr. Maginness, where he had appointments, from Glendine, in Dawson County, to line of Gallatin County, and in his absence I spoke at other places. These meetings and speeches were had and delivered at points where the contest was strenuous. At certain places in the Territory where the political convictions of the people were clearly defined, no discussion was necessary. The Democracy of Montana conceded to Marshal Botkin every quality of character, and every attribute of qualification necessary to the high and distinguished Delegate to Congress. Political antagonisms were sharply defined without malice and in perfect courtesy, and the Democracy of Montana went in to win.

44. Q. Do you know where Miles City is?—I do. I live there.

45. Q. Do you know where Etcheta is?—A. I do.

46. Q. Do you know where Junction City is?—A. I do.

47. Q. Do you know where Huntly is?—A. I do.

48. Q. Do you know where Coulson is?—A. I do.

49. Q. Do you know where Billings is?—A. I do.

50. Q. Do you know where Forsythe is?—A. I do.

51. Q. Do you know where Park City is?—A. Upon information I know. Have been there.

52. Q. Do you know where Wooley's ranch is?—A. No, sir; I do not precisely. I only know that the precinct was established there by the county board upon petition when the precincts of Custer County were established for the purposes of election. I think it is north and west of Miles City, but do not know the distance. But I think I recall positively the fact that the poll-books were sent by registered mail to the judges of election at that precinct, and were by them returned to the canvassing-board.

53. Q. Were you present when the poll-books were deposited in the post office for transmission?—A. I can't say, except generally; but I know that the commissioners acted with care in sending out the poll-books. I was not at the post office, but I told the commissioners that we wanted to have the poll-books transmitted to every precinct that had been established.

54. Q. You have said that the Wooley's Ranch precinct was established by the county board. On what date was it established?

(The foregoing question objected to for the reasons that it is already a matter of evidence from the records when Wooley's Ranch was established, and that the records are the best evidence, and that it is not a subject-matter of evidence, and that it has not been shown that the witness knows when it was established.)

A. I do not know. The records will show.

55. Q. Were you present at the meeting when it was established.

(The foregoing question objected to for the reason that it is not a subject-matter of cross-examination.)

A. I cannot say; but as secretary of the Democratic committee, I know that all the precincts in Custer County were agreed on by both political parties.

56. Q. Do you know where the precinct known as Little Porcupine is?

(The foregoing question objected to for the reason that it is not a subject-matter for cross-examination.)

A. I do not. I know the stream, and that there are settlers there.

57. Q. Did you include the Little Porcupine in your canvass last fall?

(The foregoing question objected to for the reason it is not a subject-matter of cross-examination.)

A. I did. Every precinct along the stage-route on the line of the Northern Pacific Railroad was included, but I did not speak there.

58. Q. Were you up and down the valley of Little Porcupine during the fall of 1882?—A. I was not.

59. Q. Then, what do you mean by saying it was included in your canvas?—A. When the distinguished nominee of the Democratic party for Delegate to Congress was passing up and down the road, citizens from the various precincts met him and talked with him; took counsel with him, to strengthen their political fidelity. It was in this way I met the electors of this county who lived at a distance from the principal routes of travel.

60. Q. You have said that the poll-books of the Little Porcupine precinct were sent by mail.—A. I can't tell now. Wherever there was a post office they were sent by mail, but where there was no post office they were sent by messenger.

61. Q. Who were county commissioners of Custer County in the fall of 1882?—A. James B. Hubbell, Russell Briggs, and Charles M. Strader.

62. Q. Was Mr. Strader at Miles City during the months of September and October, 1882?—A. I don't know. My impression is Mr. Strader was absent in St. Paul.

63. Q. Whom did Mr. Hubbell and Mr. Briggs support for Delegate to Congress?

(The foregoing question objected to for the reason as being immaterial and not a subject-matter of cross-examination.)

A. I don't know who they voted for, but I think they voted for the Democratic ticket.

64. Q. Are you under indictment for crime?

(The foregoing question objected to for the reason as being immaterial and not a subject-matter of cross-examination.)

A. I am, for an alleged crime. I am under indictment jointly with Willis W. Carland, as treasurer of Custer County, and Harry H. Gerrish, as deputy treasurer of said county, for conspirsory to rob Custer County of the sum of $1,700. In the United States court of this Territory an injunction was sought to restrain the collection of eighty-odd thousand dollars, taxes assessed against and alleged to be due from the Northern Pacific Railroad. I was instructed by Treasurer Carland, who was then sick in St. Paul, Minnesota, through his deputy, Mr. Gerrish, to appear in his behalf for the county in the matter of the collection of this tax and to resist the injunction. At this time I was in Helena, Montana, in attendance upon the legislature as member of the council. The Northern Pacific Railroad have retained in this suit Warren and Joseph Toole, Mr. Cullen, Mr. Sanders, ex-Judge Blake, and, I think, one other attorney, and I advised Mr. Carland to retain Mr. Ward, and Judge Chumasero, and Mr. Chadwick as attorneys for Custer County, with me. The $1,700 referred to comprised the retainers demanded by these gentlemen for their services, which was paid to them, and their receipts taken for it. The board of county commissioners approved the disbursement. That is the crime I am indicted for.

65. Q. Can you or can you not say, of your own knowledge, whether all the votes cast in Miles City in November, 1882, were all lawful votes?—A. I cannot say.

Redirect:

66. Q. Why is it you are so familiar with the whereabouts of Miles City, Junction City, Huntley, Coulson, Billings, Forsythe, and Park City, and not know the whereabouts of Wooley's ranch?—A. In 1879 and part of 1880 I had sole charge of the express service and mail service between Bismarck and Bozeman, and I have been each year since 1880 at each of those places named, with the exception of Wooley's ranch.

67. Q. State where the places named, with the exception of Wooley's ranch, are, whether or not on some public highway, railroad, or navigable stream.—A. They are on the main stage-road and mail-route from Miles City to Bozeman. Each of them was a post office and express office, and all of them are directly accessible by the Northern Pacific Railroad. They are the important and political centres of Custer County.

68. Q. State, to the best of your knowledge, information, and belief, where Wooley's ranch is located, on what public highway, how far distant from the trunk line of the Northern Pacific Railroad and the main line of settlements, towns, and villages on the

Yellowstone River.—A. I don't know. To the best of my knowledge, it is on a range 10 or 12 miles north of the old trail to Junction City, Big Horn.

Recross-examination:

69. Q. When you speak of the location of Wooley's ranch do you speak of your own knowledge?—A. I do not; only from information of others. I don't know where it is.

70. Q. Is there a post office of that name in this county?—A. There is a post office near there where they get their mail, as I am informed.

71. Q. What is the name of that post office?—A. I don't know.

72. Q. Then how do you know that there is a post office there?—A. Because, to the best of my recollection and information, the poll-books for the last general election were transmitted by mail.

73. Q. Were the poll-books after election received by mail?—A. I can't state. I don't remember.

74. Q. Do you know Mr. Ed Martin?—A. I don't recall such an acquaintance.

CH'S. G. COX.

Subscribed and sworn to before me this 19th day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

CHARLES BROWN, being first duly sworn, testified as follows:

(The contestant asks that witnesses for the contestee, who are not under examination, shall be excluded from the room.)

75. Q. How long have you lived in Miles City and vicinity?—A. Since 1877.

76. Q. What official position did you occupy as to the election of November the 7th, 1882, at Miles City, in Custer County, Montana Territory?—A. Judge of election.

77. Q. State all that you know of the manner and mode in which said election was conducted at said Miles City.—A. The polls were opened and closed at the usual hour. All the judges and clerks were present. Every man that was unknown was challenged, until they got some one to vouch for them, and then they were sworn in. Every time 25 votes were cast the fact was announced. I received every ballot, and handed it to the next judge, who put it into the box.

78. Q. State how the canvass of the votes after the polls closed was made and conducted—by whom, and where.—A. We adjourned from the voting place to a large place, and placed tables across in front in the middle of the room. The room was about 20 ft. by 100 ft., and gave every man who wanted paper and pencil to keep tally, besides the regular clerks. There was an extra officer inside with the judges and clerks. The reason we adjourned from voting place to a larger place was because the voting place was too small, and so as to give every man a chance to see how it was conducted. It was cold weather, and there was no stove in the voting place.

79. Q. State whether or not, in your opinion, the election was conducted fairly for both parties.—A. Yes, sir; for both parties.

80. Q. State whether or not, if you know, both political parties had persons present at the polls at all time during the voting for the purpose of challenging supposed illegal voters.—A. Yes, sir; there were several persons there who remained from the time the polls were opened in the morning until after the votes were counted. They were all responsible men, citizens and business men of Miles City.

81. Q. State if you know whether any considerable number of Republicans supported and voted the Democratic ticket at that election; and, if so, what, if any, reasons can you assign for their having done so?—A. A great many Republicans mentioned that that was the first time they voted for a Democrat. The reason why so many Republicans voted for the Democratic candidate was for misusing the Diamond R. in speeches made against the Diamond R. The Diamond R. was supposed to have been composed of Broadwater, Hubbell & Co. and A. H. Wilder, who had been and were then employing a great many men in the county.

82. Q. State if you were generally acquainted at that time with the great majority of the people of Miles City and Custer County; and, if so, whether, in your opinion, the vote at Miles City exceeded the then voting population of said Miles City.—A. I am. There was no person voted whom we did not personally know, either by the judges or outside challengers.

83. Q. State what, in your opinion, was the population of Custer County on November 7th, 1882.—A. I don't know.

84. Q. What were your politics on the day of said election?—A. Republican, and always have been.

Cross-examination:

85. Q. Whom did you support for Delegate to Congress?—A. Alex. C. Botkin.

86. Q. Did you vote for Mr. Botkin?—A. I did, sir.

87. Q. Who were the judges and clerks of the election precinct at Miles City?—A. H. H. Gerrish, C. B. Lebcher, and myself were judges; D. F. McMillan and Geo. E. Stilwell were clerks.

88. Q. Whom did they support for Delegate to Congress?—A. I don't know.

89. Q. Are you under indictment for crime?—A. No, sir. I never was.

90. Q. You have spoken of a concern known as the Diamond R. Who represented that concern in Miles City?—A. James B. Hubbell.

91. Q. Whom did he support for Delegate to Congress?—A. I don't know.

92. Q. How long have you resided in Miles City?—A. Since 1877.

93. Q. Do you know of your own knowledge that all the men who voted at Miles City in November, 1882, were lawful voters of Custer County?—A. All whom we did not personally know were sworn in.

94. Q. Do you know one Tom Quigley?—A. No; not personally. The name is familiar to me.

95. Q. Do you know one Ed Martin?—A. No; not personally. The name is familiar to me.

96. Q. Did Tom Quigley vote at that election?—A. I don't remember.

97. Q. Did Ed Martin vote at that election?—A. I don't remember.

CHAS. BROWN.

Sworn to and subscribed before me this —— day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

H. H. GERRISH, being first duly sworn, testifies as follows:

98. Q. Where were you residing in November, 1882?—A. In Miles City, Custer County, Montana, and was judge of election at said precinct on the 7th of November, 1882.

99. Q. State at what hours the polls were opened and when closed; how and in what manner the election was conducted, and, in general, all and everything concerning said election.—A. The polls were opened and closed at the usual hours. The election was conducted quietly and fairly for both parties.

100. Q. State in that connection whether there were any fraudulent votes, if you know of any.—A. There were not. Every voter that was not known was challenged, and his vote sworn in.

101. Q. State whether or not the polls were closely watched or guarded in the interests of both parties by challengers who were there during the entire time.—A. Each party had a man stationed at the window during the entire day. There was also outside challengers.

102. Q. State whether or not these challengers frequently exercised the right of challenge.—A. They did. There was at least a third of the voters challenged and their votes sworn in.

103. Q. State whether or not the number of votes as cast were at intervals, by the judges of election, announced to the people.—A. They were. Every 25 votes that were cast was called from the window, so that every one could hear.

104. Q. State how the vote was canvassed and counted, and by whom, and what facilities were given the people to see that the count and canvass was fairly and justly made.—A. The vote was canvassed by the three judges and clerks, in a large room; the room was 20 or 25 ft. by 100 ft. The judges furnished every one who desired paper and pencil to tally. There never was less than 50 people in the room, and at least ten who kept the tally. There were two or three men who were there the entire time.

105. Q. State whether or not at any time from the opening of the polls until the count and canvass had been completed were the poll-books and the ballot-box out of the possession of the judges and clerks of the election.—A. They were not. On election-day, when we went to our dinner, the ballot-box was sealed and taken with us; and while the count was in progress our meals were brought to us, and we did not leave the building.

106. Q. Did you sleep any during this time?—A. It took 36 hours to canvass the vote, and we did not sleep; we worked continuously.

107. What are your politics, and for whom did you vote for Delegate to Congress at that election?—A. I have always been a Republican until the last election. I worked and voted for Maj. Maginness for Delegate to Congress.

108. Q. State how long you have been a resident of Custer County, Montana Territory, and whether or not you were generally familiar with the people of said county in Octo-

ber and November last.—A. I have been a resident of Custer County since May, 1879. I was deputy collector for Mr. Carland, and travelled all over the county collecting taxes and licenses, and was well acquainted with the people generally. The summer and fall of 1882, I was on the road nearly all the time.

109. Q. From your knowledge of the people of Custer County in November, 1882, of what did the voting population consist?—A. There were a great many transient people in the county, railroad laborers, men working on the ditch here and at Billings, a great many employed by the Diamond R. at that time, and all the towns along the line of the Northern Pacific R. R. at that time were full of transient people. There were civilians employed at the post as freighters and in other capacities.

110. Q. From your acquaintance with the people of Custer County in November, 1882, what was the population of that county to the best of your knowledge and belief?—A. There must have been 8,000 to 10,000 people in the county at that time.

111. Q. What was the ratio of the voting population of said Custer County in November, 1882, in comparison with that of older States?—A. It was much larger; I don't know exactly.

112. Q. Do you know of any, or have you reason to believe that there was, fraudulent voting at the Miles City precinct in November, 1882?—A. I do not know of any, and have no reason to think that there was any fraudulent voting. The vote cast in Miles City was less than was expected. There were bets offered the night before election that the vote would exceed 1,500, and I heard no one estimate it at less than that, and some as high as 2,000.

113. Q. What class of politicians, if any, offered these bets?—A. They were offered from both political parties.

Cross-examination:

114. Q. Do you know that all the votes cast at the Miles City precinct in November, 1882, were cast by lawful voters?—A. As far as I have means of knowing, and believing a man's oath, they were. I do not know all the legal voters.

115. Q. Were voters who were challenged and who made oath to their qualifications allowed to vote without reference to the fact whether they were or were not lawful voters?—A. Every man that swore in his vote was allowed to vote. We could not tell whether he was a legal voter or not, except in that way.

116. Q. Did Tom Quigley vote in the election in November, 1882?—A. I do not know.

117. Q. Did Ed Martin vote in the election in November, 1882?—A. I do not know.

118. Q. Was there or was there not such a man as Tom Quigley living in Miles City in November, 1882?—A. I don't know.

119. Q. You stated in your direct examination that all voters not known to the judges were challenged and sworn. Do you know this Tom Quigley?—A. I did not know Tom Quigley, and I meant, by stating that all voters who were not known to the judges were challenged, that they were known by outside challengers or parties known by the judges. I did not mean that the judges were personally acquainted with every voter.

120. Q. Do you know Ole Johnson?—A. I do not know him.

121. Q. Do you know William Carr?—A. I do.

122. Q. Was he in Miles City on the day of election?—A. I think he was; am quite sure he was.

123. Q. Did you see him deposit his vote on that day in Miles City?—A. I don't remember.

124. Q. Do you know William Duffy?—A. I know such a man; I don't know as his name is William.

125. Q. Did you see him deposit his vote in Miles City at the November election?—A. I don't remember.

126. Q. How many poll-books were used at said election in Miles City?—A. I don't remember exactly; six or eight, I think.

127. Q. Were all of the books so used filled on the day of election?—A. I do not know.

128. Q. Did you or did you not sign all the poll-books that were lawfully used and returned to the county clerk?—A. All the poll-books that were used were signed and sealed as soon as the count was closed and the returns made.

HARRY H. GERRISH.

Subscribed and sworn to before me this 21st day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

CHAS. WALKER, being first duly sworn, testifies as follows:

129. Q. How long have you been a resident of Miles City, Custer County, Montana Territory?—A. Since November, 1877.

130. Q. What official position do you now occupy, and how long have you held it?—A. I am a probate judge, with a criminal and civil jurisdiction.

131. Q. How long have you held that position?—A. Since December, 1880.

132. Q. What, in your opinion, was the population of Custer County in November, 1882?—A. I could not answer that question with any degree of certainty.

133. Q. Did it have a population, in your opinion, of 12,000?

(The foregoing question objected to for the reason that the question is incompetent and leading; that the attorney for contestee only asked it to prompt the failing memory of the witness.)

A. I had no opinion about it.

134. Q. What was the population of Miles City in November, 1882?—A. The population was estimated at about 2,000.

135. Q. What was the voting population of Miles City in November, 1882, including those who were in the city on the day of election and were residents of other portions of the county and Territory?—A. Before the election I estimated the vote of this precinct to be about 1,000 or more, and I reached that conclusion by former elections.

Cross-examination:

136. Q. Do you or do you not know that all the votes cast at Miles City in November, 1882, were cast by lawful voters?—A. I do not know; I have no means of knowing.

CHAS. WALKER.

Subscribed and sworn to before me this 21st day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

D. F. MCMILLAN, being first duly sworn, testified as follows:

137. Q. How long have you been a resident of Miles City, Custer County?—A. Since 1877.

138. Q. What official positions have you held in Custer County?—A. I was road superviser of this district the summer of 1878. In November, 1878, I was elected county commissioner.

139. Q. What are your politics?—A. Republican. I voted for Alex. C. Botkin for Delegate to Congress in November, 1882.

140. Q. Were you clerk of the election in Miles City precinct in November, 1882?—A. I was.

141. Q. State whether or not the polls were opened and closed at the usual hours.—A. They were.

142. Q. State how and in what manner said election was conducted by the judges.—A. Chas. Brown stood at the window (he was one of the judges) and received the votes and challenged votes, and passed the ballots to Gerrish and Lebcher, the other judges, who put them in the ballot-box.

143. Q. State whether or not both parties had persons at the polls to watch and guard the proceedings of the election and challenge any doubtful person.—A. There was.

144. Q. State whether or not the number of votes were announced by the judges, from time to time, as they were cast.—A. They were, after every 25 votes were cast, and whenever any person called for them.

145. Q. Do you know of, or have you any reason to believe, that there were fraudulent votes cast at said election?—A. I have not, unless it was the soldier vote that was cast.

146. Q. Was the soldier vote challenged; and, if so, were any or all of those who voted sworn before voting?—A. They were challenged and sworn before voting.

147. Q. What, in your opinion, was the population of Custer County in November, 1882?—A. About 8,000 or 9,000.

Cross-examination:

148. Q. Where did you spend the evening on the night before election in November, 1882?—A. In the early part of the evening was about town, and then went home. It was about eleven or twelve o'clock when I went home.

149. Q. Were you one of the clerks on election-day?—A. I was.

150. Q. How many poll-books were used that day?—A. I think each clerk used three.

151. Q. Were the poll-books so used and returned all filled with the names of persons who actually voted?—A. They were filled with names of persons called by Chas. Brown, one of the judges, who received the ballots, or tickets, at the window.

152. Q. Were the votes cast and counted at such election all cast by lawful voters of Custer County?—A. That I don't know.

153. Q. Were there or were they not any ballots in the ballot-box when the polls were opened?—A. I don't know; I did not look in the box.

154. Q. Have you a brother named Hugh McMillan?—A. I have.

155. Q. Where was he on November 7th, 1882?—A. Some place in Canada, I think.

156. Q. Do you know of any other Hugh McMillan?—A. I do.

157. Q. Are you well acquainted with him?—A. Yes, sir.

158. Q. What is the color of his hair?—A. He has sandy hair, reddish beard, and has sore eyes.

159. Q. How many times did he vote on November 7th, 1882?—A. I could not tell you.

160. Q. Did he vote more than once?—A. I could not tell you.

161. Q. Do you know one Tom Quigley?—A. Yes, sir.

162. Q. Where was he on November 7th, 1882?—A. I saw him in the evening, in Charley Brown's saloon, in Miles City, Montana.

163. Q. Are you under indictment?—A. I am.

164. Q. How many indictments?—A. I don't know how many there is.

165. Q. Are you well acquainted with Tom Quigley?—A. Yes, sir; he worked for me last fall.

166. Q. Do you know Peter Jackson?—A. I know two men by that name.

Redirect:

167. Q. Who had custody of the ballot-box on the day of election—clerks or judges?—A. Judges.

168. Q. Do you know of Hugh McMillan voting more than once on the day of election?—A. I do not.

169. Q. You have said that you were now resting under indictments. Were they secured against you since the November election, 1882. And, if so, are you charged by them with any fraudulent transaction in connection with said election?—A. They were secured since the November election, 1882. I am not.

170. Q. Do you know one Wilbur F. Sanders, a practising attorney in the city of Helena, in this Territory, and who is now, and was at the time the indictments were found against you, attorney for the Northern Pacific Railroad in this Territory?—A. I do.

171. Q. Did not Wilbur F. Sanders make speeches and otherwise canvass Custer County in the interest of the contestant?—A. He did.

172. Q. Is it not generally believed by the people of Custer County that the indictments were secured against you through the efforts of said Sanders, because you, as commissioner of Custer County, insisted that said railroad should pay the taxes due the said county of Custer on assessments against said railroad?—A. I believe so.

D. F. McMILLAN.

Subscribed and sworn to before me this 21st day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

CHESTER B. LEBCHER, being first duly sworn, testified as follows:

Q. Where do you reside?—A. Miles City, Chester County, Montana.

Q. How long have you resided in Miles City?—A. Since 1877.

Q. What is your profession?—A. I am a physician.

Q. What are your politics, and for whom did you vote for Delegate to Congress in November, 1882?—A. I sometimes vote the Republican ticket, and sometimes I vote the Democratic ticket. I voted for Maginness at the November election, 1882.

Q. What official position did you occupy in Miles City election precinct in November, 1882?—A. I was one of the judges of election for Miles City precinct.

Q. State whether or not the polls were opened and closed at the usual hours.—A. To the best of my knowledge, they were.

Q. State how and in what manner said election was conducted by the judges.—A. The election took place at what is called the Bella Union Theatre, on the lower floor, in Miles City. Chas. Brown, one of the judges, received the ballots and handed them to Gerrish, and Gerrish handed them to me. I placed them in the ballot-box, through a hole in the top. The names of each voter was recorded as they passed in their ballot.

Q. How many clerks had you?—A. Two.

Q. Did each record the name of voters?—A. They did.

Q. Which one of you judges did the challenging?—A. Chas. Brown done most of the challenging, if not all.

Q. State whether or not both parties had persons at the polls to watch and guard the proceedings of the election and challenge any doubtful person offering to vote.—A. There were parties on both sides who were there to challenge the votes.

Q. State whether or not the right of challenge was frequently exercised.—A. It was.

Q. State whether or not the number of votes were announced by the judges, from time to time, as they were cast.—A. Frequently during the election the number of votes were announced.

Q. State whether or not if, after the polls were closed, a comparison was made with the ballots in the box by the number of voters recorded by the clerks, and what was the result.—A. There was a comparison of the ballots in the box and the names of voters recorded in the books, and they tallied.

Q. Do you know of, or have you any reason to believe that there were, fraudulent votes cast at said election?—A. I do not know of any fraudulent votes having been cast.

Q. What, in your opinion, was the population of Custer County in November, 1882?—A. I have no idea what the population was.

Q. What, in your opinion, was the voting population of Miles City precinct in November, 1882?—A. About 1,200 or 1,500.

Q. Of what class of citizens was this population composed?—A. Ranchmen, buffalo-hunters, soldiers, residents of Miles City, men working on the railroad, and men working on the ditch.

Cross-examination:

Q. Are you under indictment for crime?—A. To the best of my knowledge and belief, I am under several indictments for alleged attempts to commit crimes, not alleged (in the complaint) to have been committed.

Q. Who were the judges, and who were the clerks of the Miles City precinct in November, 1882?—A. The judges were Chas. Brown, Harry Gerrish, and C. B. Lebcher. The clerks were Geo. E. Stillwell and D. F. McMillan.

Q. How many of the persons just named have since been indicted for crime?—A. I don't know.

Q. What was the practice at the Miles City election in November, 1882, about receiving the votes of persons challenged, who thereupon took the oath required by law?—A. Their votes were received and deposited, and their names were scored as having been challenged.

Q. Were the votes of persons who were challenged, and who thereupon took the oath, received, deposited, and counted in all cases?—A. All those who took the oath that they were legal voters and presented their ballots, they were received.

Q. Did the judges in any case seek for information from other sources as to whether the persons so challenged were legal voters?—A. There was no inquiries made, except as regards to soldiers, to the best of my recollection.

Q. In the case of the soldiers first referred to, were their ballots received?—A. Yes, those who took the oath.

Q. Can you say, of your own knowledge, that all the votes deposited and counted at the election in Miles City in November, 1882, were cast by lawful voters?—A. I could not say whether they were lawful voters or not.

Q. Do you know Peter Jackson?—A. I do not know whether I do or not.

Q. Do you know Tom Quigley?—A. I do not know whether I do or not.

Q. Do you know Hugh McMillan?—A. I know some McMillans, but do not their first name, with the exception of one.

Redirect:

Q. Have you ever been indicted for any complicity in any election frauds?—A. Not to my knowledge; I don't think I have.

Q. Do you know Wilbur F. Sanders, a practicing attorney in this Territory, and attorney for the Northern Pacific Railroad Company in this Territory?—A. I know Wilbur F. Sanders, practicing attorney in this Territory, and residing at Helena, and I know that he has been attorney for the Northern Pacific Railroad.

Q. Are you one of the many citizens of Custer County who were indicted by the last grand jury of Custer County, through alleged collusion of the said Sanders with the said grand jury?—A. I know Sanders was in the grand-jury room with the grand jury.

I do not know what he was doing, but I understood that he was there for the purpose of advising the grand jury.

Q. Was the said Sanders district attorney for the county of Custer?—A. He was not.

Recross-examination:

Q. Do you know that Mr. Sanders was in the grand-jury room of your own knowledge?—A. I do.

Q. Were you personally present in the grand-jury room?—A. I was not.

Q. Do you personally know whether any indictments were found by said grand jury against Donald F. McMillan?—A. I do not know.

CHESTER B. LEBCHER.

Subscribed and sworn to before me this 23d day of July, 1883.

W. B. TOWNE,
Clerk Probate Court.

Here the contestee announces his case as closed, and rests.

TERRITORY OF MONTANA,
County of Custer:

I hereby certify that the witnesses named above severally appeared before me, in accordance with the stipulation of the parties herein; that, after being duly sworn, they were examined by the above-named contestant in person and by Thos. R. Edwards, esq., attorney for the contestee; that the questions propounded to them respectively, and their answers thereto, are truly and faithfully reduced to writing as above, and that the depositions of the said witnesses were respectively duly attested by them in the presence of the said contestant and Thomas R. Edwards, esq., attorney for contestee.

In witness whereof I have hereunto set my hand and official seal, this 23d day of July, 1883.

[SEAL.]

W. B. TOWNE,
Clerk of the Probate Court.

No. 2.

In the matter of the contested election for Delegate to 48th Congress.

ALEX. C. BOTKIN
vs.
MARTIN MAGINNISS.

It is stipulated that notice of the taking of testimony in the above cause, as to the vote in Dawson County, is waived by both parties thereto.

ALEX. C. BOTKIN,
Contestant.
TH. R. EDWARDS,
Attorney for Contestee.

In the matter of the contested election for Delegate to 48th Congress.

ALEX. C. BOTKIN
vs.
MARTIN MAGINNISS.

It is stipulated by and between the parties to this contest, that the number of votes cast in Dawson County on the 7th day of November, 1882, for Delegate to Congress was 641 votes, as follows:

Precincts.	M. Maginnis.	A. C. Botkin.	Total.
Burns	10	4	14
Glendive	447	93	540
Keith	46	5	51
Newton	30	6	36
	533	108	641

In the matter of the contested election for Delegate to 48th Congress.

ALEX. C. BOTKIN
vs.
MARTIN MAGINNIS.

Witnesses: Jos. W. Allen, R. R. Cummins, J. H. Ray, D. R. Mead, Robt. Poulet, Jno. E. Walton, W. E. Lonergan, J. D. Sears.

I hereby certify that the above-named witnesses severally attended before me, in accordance with the stipulation herein; that they were first duly sworn, then examined by the contestant in person and by Thos. R. Edward, esq., attorney for contestee; that the questions propounded to them, and their answers thereto, are truly and faithfully transcribed and reported in the above; that after giving his testimony, each witness attested the same with his signature in the presence of the said contestent and attorney for contestee.

[SEAL.] GEO. S. PALMER,
Notary Public.

In the matter of the contested election for Delegate to 48th Congress.

ALEX. C. BOTKIN
vs.
MARTIN MAGINNIS.

JOS. W. ALLEN sworn:

Q. Where do you reside?—A. Glendive, Dawson Co., Montana.

Q. How long have you resided here?—A. Since the 14th day of July, 1880.

Q. Will you state when Glendive was first founded?—A. Glendive was founded in August, 1880.

Q. What, in your opinion, was the population of Glendive in the fall of 1882—men, women, and children?—A. From 1,000 to 1,200.

Q. Were you present at the election for Delegate to Congress, in Glendive, in November, 1882?—A. Yes.

Q. State whether or not any persons employed on the Government works on the Yellowstone River voted at said election?

(Objected to for the reason that it has not been shown that the witness knows.)

A. It was so understood that they were in the Government employment.

Q. Where did they reside?—A. I do not know.

Q. When did the Government works on that river commence in that year?—A. Cannot answer defintly; along in August some time to the best of my recolection.

Q. Were the men so employed residents of Dawson County or Montana Territory?—A. Of my own knowledge, could not say. I can only give an opinion, as I was only acquainted with two of them, Captain Durage and John Corrisle.

Q. Was the right of chalange freely exercised at Glendive on election-day?—A. It was agreed between parties not to chalange.

Q. Was it comenly understood in the vacinity of the polls that all votes were to be received without chalange?—A. That it was so understood in the vacinity of the polls.

Q. What was the character of the population of Glendive in the fall of 1882 with reference to their employment?—A. Followed the usual avocations of life, merchants—mcanics, railroad employees, and laborers.

Q. Were not a large proportion of them directly or indirectly employed by the Northern Pacific Railroad?

(Objected to. Is not shown that the witness knows.)

A. Yes; a large proportion.

Q. Who did the foremen, contractors, sub-contractors and bosses of the Northern Pacific Railroad generally support for Delegate to Congress?

(Objected to. It is not shown that the witness knows, and that evidence of this character can be but secondary and heresay.)

A. Martin Maginnis.

Cross-examined by contestee:

Q. Were you canerdate in that election? If so, for what office?—A. I was, for legislative assembly.

Q. How many votes did you recive?—A. Thirteen votes.

Q. How long were you about the polls on the day of electian?—A. The larger part of the day.

Q. What was your condition as to soberity on that day?—A. Was soober.

Q. Of the 1,000 or 1,200 citizens of Glendive, on the day of election, how many were women and children?—A. I cannot really aproximate it, but would estemate it at from 150 to 300.

Q. About how many families were in Glendive at that time?—A. From 50 to 75 families.

Q. Do your know of any fraudulent voting at said election in Glendive, of your own knowledge?—A. Of my own knowledge, I do not.

Q. You have stated that the right of chalange was by agreement between the parties waved. Who agreed to this, and when?—A. By the crowd around the polls. About 10 or 11 o'clock, I think it was.

Q. Did this crowd around the polls consist of leaders in both parties?—A. That was my understanding.

JOSEPH W. ALLEN.

Subscribed and sworn to before me this 25th day July, A. D. 1883.

[SEAL.] GEO. S. PALMER,
Notary Public.

R. R. CUMMINS sworn:

Q. Where do you reside?—A. Glendive, Dawson County, Montana.

Q. How long have you resided here?—A. Since the 9th of April a year ago.

Q. What, in your opinion, was the population in November, 1882—men, women, and children?—A. I should think, to the best of my judgment, and talking with residents here, the population would be from 700 to 720.

Q. How are the people generally employed?—A. It is always considered a railroad town. Seven or eight days before election a large number of men came here to work for the railroad on the dykes.

Q. Were the men who so came citizens of Montana Territory?—A. From my own information, part of them came from Milton, part of them from Iron Butte, part from Egle Bute, and part from Sentinal Butte, in Dakota.

Q. Did they vote at such election?—A. They were said to. Some of them I saw vote.

Q. State whether or not any men were taken to the polls or vacinity by freight or construction trains.—A. I could not answer. Can only answer from what I herd.

Q. In your answer of the previous question you spoke of Milton and Iron Butte. State wher or not they were in Dawson County in November, 1882.—A. They were not.

Q. Did you or did you not see any bodies of men march to the polls with something like military proceedings?—A. Yes, sir. There was one company from Egle Butte, under the command of Capt. Peterson, formed a line, and marched, with music of bag-pipes, and voted.

Q. How many did there seem to be in that company?—A. I counted them at the time, but have forgotten. I should think there was nearer 100 than 50.

Q. Did they all vote?—A. Yes.

Q. Did they all seem to be of adult age?

(Objected to. They question is competent in using the word seem.)

A. I could not say.

Q. Did you see other companies come from other points and vote at the election?—A. I did not see any companies. I saw two men that I know to be working at Irom Butte and boarding at Milton.

Q. How were they employed?—A. They working for the railroad.

Q. Who was understood to be the preference of the Northern Pacific Railroad for Delegate to Congress?

(Objected to as immaterial.)

A. Martin Maginnis.

Cross-examined by contestee:

Q. What are your politics?—A. I am a Republican out and out.

Q. Were you canerdate for office at the election November last?—A. I believe I was.

Q. State what you were running for?—A. County superintendent.

Q. State what were the bounderies and dimentions of Dawson County in November, 1882?—A. I cannot give you the exact bounderies, as I do not know. In the neighborhood of Eagle Butte is the southern boundery.

Q. Can you state positively, of your own knowledge, that Eagle Butte at that time was not in Dawson County?—A. To my knowledge and belief, it was in Dawson County. I would not swear that it was or was not, as I do not know postively.

Q. Did you see persons vote in this pecinct who you know to be from Sentinal Butte, Dakota Territory?—A. No, sir.

Q. Do you know of any fraudulent voting in this precinct at that election?—A. I do know of two men from Milton who voted in this precinct.

Q. Were those two votes fraudulent and illegal for Delegate to Congress?—A. They were.

Q. Where is Milton?—A. About 15 miles from here, the first station, and in Montana Territory.

Q. Do you or do you not know that any qualified elector residing in any portion of the Territory has the right to vote for Delegate to Congress at any election precinct in the said Territory?—A. I do not know.

Q. Do you know of any other fraudulent voting in this precinct other than the two men you have mentioned?—A. No, sir.

Q. Give the names of the two persons you have mentioned?—A. I don't know their names.

R. R. CUMMINS.

Subscribed and sworn to before me this 25th day of July, A. D. 1883.
[SEAL.] GEO. S. PALMER,
Notary Public.

J. H. RAY sworn:

Q. Where dae you reside?—A. Glendive, Dawson County, Montana.

Q. How long have you resided here?—A. About two years.

Q. What official position do you hold?—A. County suprentident of schools.

Q. What is the relitive size of the Glendive school district and the Glendive election precinct?—A. School-district No. 1 is about 180 miles by 18 miles.

Q. State when the last election was held in the Glendive school precinct?—A. In April, 1883.

Q. How many votes were cast at such school-district election?—A. 276 votes cast.

Q. State whether or not there was unusual interest exibited in that election?—A. There were two sets of trustees running. I done what I could to bring out voters; the other side also made an effort.

Q. State what, in your opinion was the population of Glendive in November, 1882—men, women, and children.—A. I should judge there would be about 600 persons at the time of the election, in what we call the village limits.

Q. Do you mean to include in the above answer all ages and sexes?—A. I do.

Q. How were the people living in Glendive in Nov., 1882, generally employed?—A. They were generally employed in the interests of the Northern Pacific Railroad Company.

Q. Who was understood to be the preference of the Northern Pacific Railroad Co. for delegate to Congress?—A. Martin Maginnis was the preference.

Q. Did you see any person or persons carried to the polls on railroad-trains?—A. I did not.

Q. Did you see any bodies of men marched to the polls and vote?—A. I did.

Q. Who were they, with reference to their employment?—A. They were employed by the Northern Pacific R. R. Co. mostly.

Q. Were they all of adult age?—A. Some appeared to be rather smoth-faced to be voters.

Q. Where were these mens so employed at that time?—A. I saw men in the ranks who were working at Eagle Butte dyke, and some who were working at Iron Butte.

Q. Was Iron Butte in Dawson County as then constituted?—A. It was not.

Q. Who seemed to be in charge or command of that party?—A. A man by the name of Peterson.

Q. What was Peterson's position or employment at that time?—A. I supposed him to be the boss of a working gang on the Northern Pacific R. Road.

Q. Did you see any men employed on the Government works on the Yellowstone River vote at such election?—A. I cannot say that I did.

Q. Do you know of any fraudulent votes having been passed in Glendive, November, 1882?—A. I do.

Q. How many such votes do you personally know having been passed?—A. Two.

Cross-examined by contestee:

Q. What is your politics?—A. Republican.

Q. Were you a candidate for office at the November election last?—A. Yes, sir.

Q. What office?—A. County suprentent of schools.

Q. What ticket did you run on?—A. A mixed ticket—a people's ticket.

Q. Did you run upon a ticket headed Democratic ticket?—A. I ran on the Democratic ticket.

Q. Do you state positively that there were any minors voted at said election?—A. I have not said that any voted.

Q. Do you swear positively that there were fraudulent votes cast at the Glendive precinct at the November election, 1882? If so, how many?—A. I do. Two voted.

Q. Who are they?—A. James W. Insca and John F. Freish.

Q. Where did they reside at that time?—A. They had a residence—they evidence—Dakota Territory at that time, to my knowledge.

Q. Did you see them vote here?—A. I did.

Q. Did you chalange their votes?—A. I did not.

Q. Were you in any ways instremental in their voting?—A. I was not.

Q. Did you walk to the polls with them?—A. I did not.

Q. At the time they voted were they illegal voters?—A. They were.

Q. Why did you not chalange their votes?—A. At the time they voted it was the watchword that no voters should be chalanged.

Q. Say you, as an old citizen and a canerdate for office, stood quietly by and saw what you knew to be illegal voting without using any effort to prevent the same. Is this true?—A. It is. It would consider to be unsafe to do so under the circumstances.

Q. How long have you known these parties in Dakota?—A. I knew them not in Dakota; they registered from there, and said they had never been in Glendive, Montana, before.

Q. Do you know, of your own knowledge, that they had not been and were not citizens of Montana Territory?—A. I think I do under the circumstances. I have their statement for it.

(The witness asks the contestent if it is proper for the witness to answer this question, and refused to answer further, having been advised by the contestent that his answer is a sufficient one.)

Q. Is not all your knowledge as to these two votes being illegal obtained from what has been told you only?—A. Yes, sir; by the parties.

Q. Have you any other information as to their being illegal votes?—A. I think I have.

Q. What is it?—A. I directed letters for one of the parties to what he called his home.

Q. Do you know of anything else?—A. I do not.

Q. Do you know of any other fraudulent voting at said polls?—A. Not to my certain knowledge.

Q. Did you see any intimidation at said polls?—A. I did not. I should have expected to if there had been opportunity.

Q. Were there no voters chalanged at the polls?—A. I know of none.

Redirect:

Q. Were you keeping a hotel at Glendive in 1882?—A. I was.

Q. Did the two men referred to register at your hotel? If so, from what point?—A. They arrived at my hotel, from Dakota, Nov. 4, 1882.

J. H. RAY.

Subscribed and sworn to before this 25th day July, A. D. 1883.

[SEAL.] GEO. S. PALMER,
Notary Public.

D. R. MEAD sworn:

Q. Where do you reside, and what is your official position?—A. In Glendive, Dawson County, Montana, and I am postmaster at present.

Q. How long have you resided at Glendive?—A. Two years and a half, (2½.)

Q. What, in your opinion, was the population of Glendive in November, 1882—men, women, and children?—A. About a thousand.

Cross-examined by contestee:

Q. What are your politics?—A. Republican.

Q. Of the 1,000 population mentioned, how many consisted of women and children?—A. I should say one-third were women and children.

Q. What was the population of Dawson County at that time?—A. Probably 1,500.

Redirect:

Q. I ask you to refer again to your estimate of the number of men, women, and children in Glendive, Nov., 1882, and say whether your estimate is unqualified.—A. It is unqualified; it is just a guess.

D. R. MEAD.

Subscribed and sworn to before me this 25 day of July, 1883.
[SEAL.] GEO. S. PALMER,
Notary Public.

The contestent here rests his case in chief.

ROBT. POUTET sworn:

Q. Do you reside in Glendive, Dawson County, Montana Territory; and, if so, how long?—A. Yes; two years and nine months.

Q. What was the population of Glendive at the November election, 1882?—I should say in the neighborhood of 1,000.

Q. Of this 1,000, what proportion consisted of women and children?—A. Somewhere about one-fourth of the population were wimen and children.

Q. What was the population of Dawson County at that time?—A. As near as I could judge, about 1,300.

Q. What proportion of this were wimen and children?—A. I could not say.

Q. Were you present at Glendive at the November election, 1882?—A. Yes, sir.

Q. How was it as to quietness, piece, and order?—A. I considered it a very orderly election.

Q. Were you around the polls much on that day?—A. Yes, sir.

Q. Do you know of any fraudulent voting, or have you any reason to believe that there was any on that day?—A. I know of none, and have no reason to believe there was any.

Q. Were you a member of the canvasing-board that canvassed the returns of Dawson County at that election?—A. I was chareman of that board by virtue of my being chairman of the board of county commissioners of Dawson County.

Q. How was that canvas conducted as to fairness and justice toward all politicial canerdates?—A. It was a fair canvas.

Q. Do you know Wilbar F. Sanders, a practicing attorney of this Territory, and who was then and now is attorney for the Northern Pacific R. R. in this Territory?—A. Yes, sir.

Q. Was he present at this canvas in the interest of the contestent?—Yes, sir; he so claimed.

Cross-examined by contestent:

Q. What are your politics?—A. Democratic.

Q. Were you a canerdate on the ticket headed by Martin Maginnis?—A. I was.

Q. How was you employed at the time of the election?—A. I was dealing in general merchandise and the liquer business.

Q. Do you know there were no illegal votes cast in Dawson County in November, 1882?—A. I do not know; that is something beyond my knowledge.

Q. Have you reason to suspect that there were or may have been?—A. Not of my own personall knowledge. I have heard there was, but can't tell.

Q. Have you or have you not ever used words substantilly to this effect: "That was the best joke on an election I ever heard of?"—A. No, sir.

Q. Did you at any time use any language of that import?

(Objected to for the reason that there is neither time or place stated in the question, nor to whom the related words were addressed.)

A. No, sir.

Q. Did you ever, at any time, use any language implying that there may have been fraud at such election?—A. No, sir; not to my recollection.

ROBERT POUTET.

Subscribed and sworn to before this 25 day of July, 1883.
[SEAL.] GEO. S. PALMER,
Notary Public.

JNO. E. WALTON sworn:

Q. Were you a judge of election at the Glendive precinct, Dawson County, at the general election in November, 1882?—A. Yes, sir; I was.

Q. How was said election conducted as to quietness, piece, and order?—A. I saw no trouble, as far as I was concerned.

Q. Did you exercise your right, as a judge and a citizen of this Territory, to challenge all persons who offered to vote and who you supposed to be illegal voters?—A. I chalanged all parties that I knew to be illegal voters.

Q. Did other persons than the judges exercise the right of chalange?—A. There was one or two parties in the forenoon chalanged, but after that no chalanges were made that I know of.

Q. What, in your opinion, was the population of the precinct of Glendive at that time?—A. I should think the population of this precinct at that time to be probably 800.

Q. Do you know of any fraudulent votes cast at that election?—A. No, sir; I do not. If I had, I would not have taken them.

Cross-examination by contestent:

Q. What are your politics?—A. Republican.

Q. For whom did you vote for Delegate for Congress?—A. Mr. Maginnis.

Q. How are you employed?—A. I am a farmer. Have no other employment.

Q. How many of the present officers of Dawson County were elected on the ticket headed by Martin Maginnis?—A. That a question I am unable to answer.

Q. How many of the present county officers of Dawson County directly or indirectly employed by the Northern Pacific R.?—Two only, to my knowledge.

Q. You have said in your direct examination that you chalanged all persons that you knew to be illegal voters. Did you chalange all whom you believed to be illegal voters?—A. Yes, sir; I did.

Q. Do you know that there were no illegal votes cast, counted, and canvased at the Glendive precinct November, 1882?—A. Not of my own personal knowledge I do not.

JNO. E. WALTON.

Subscribed and sworn to before me this 25th day of July, A. D. 1883.

[SEAL.] GEO. S. PALMER,
Notary Public.

W. E. LONERGAN sworn:

Q. How long have you lived in Glendive?—A. Two years the 19 of last May.

Q. What are your politics?—A. Simon-pure Democrat.

Q. What official position do you hold in Dawson County?—A. Probate judge.

Q. Were you present at the November election, 1882, at Glendive?—A. I was.

Q. State whether it was a quiet, peacable, and orderly election or not?—A. Very quiet indeed.

Q. What was the population of Glendive at the time of that election?—A. I should judge from 800 to 1,000.

Q. In what proportion was wimen and children?—A. I should say about one-forth.

Q. What was the population of Dawson County at that time?—A. I should judge between 1,200 and 1,400, the proportion as to wimen and children.

Q. Do you know of any fraudulent transaction in connection with the election, November, 1882, or have you reason to believe there was any?—A. No, sir.

Cross-examination by contestent:

Q. Whom did you support for Delegate to Congress?—A. Hon. Martin Maginnis.

Q. Do you say upon your oath that there were no illegal votes cast in Dawson in November, 1882?—A. Not to my knowledge.

Q. Have you any reason to believe that there were illegal votes cast at such election?—A. No, sir.

Q. Were there or were there not persons brought from ajoining railroad camps to vote at Glendive?—A. There were men came here from Egle Butte to vote.

Q. How did they come?—A. They walked.

Q. Did they walk the intire distance?—A. I cannot tell.

Q. Were any men brought in on railroad-train to vote that day?—A. That I cannot tell.

W. E. LONERGAN.

Subscribed and sworn to before me this 25th day of July, 1882.

[SEAL.] GEO. S. PALMER,
Notary Public.

J. D. SEARS sworn:

Q. How long have you lived in Gledive?—A. A litle over two years.

Q. Were you one of the judges of election at Glendive in November, 1882?—A. Yes, sir.

Q. You may state how that election was conducted as to quietness.—A. There was good order.

Q. Do you know of any fraudulent votes cast at said election?—A. Not to my knowledge.

Q. Did the number of ballots in the ballot-box compare with the number of voters at that election?—A. There was about the same amount, I think. There was a small difference between the ballots and the talley.

Cross-examination by contestant:

Q. What are your politics?—A. Republican.

Q. Who did you support for Delegate to Congress?—A. Botkin.

Q. Did any of the other judges or clerks of such election support the Republican candidate for Delegate?—A. I think they did, but am not postive.

Q. Who?—A. Mr. Prescot and Mr. Teba.

Q. What, in your opinion, do you think was the population of Glendive in November, 1882—men, wimen, and children?—A. Between 900 and 1,000.

J. D. SEARS.

Subscribed and sworn to before me this 25 day of July, A. D. 1883.

[SEAL.] GEO. S. PALMER,
Notary Public.

ROBERT POUTET recalled for cross-examination:

Q. Do you pay license as a liqier dealer in the town of Glendive?—A. Yes, sir.

Q. Upon what basis of population is your license based?—A. I pay a county license of $160 a year.

Q. Upon what number of popuation is that license adjusted?

(Objected for the reason that it not a subject-matter of cross-examination, incompetent, revelent, and the witness is not asked whether the basis is to be made for that of retail or wholesale license, or both.)

A. I have never figured it. We pay license as the treasurer demands.

Q. Have you any information and beleaf on the subject?—A. I cannot state, as I am not well informed.

ROBERT POUTET.

Subscribed and sworn to before me this 25th day of July, A. D. 1883.

[SEAL.] GEO. S. PALMER,
Notary Public.

No. 3.

In the contested election for Delegate to the 48 Congress from Montana Territory.

ALEXANDER C. BOTKIN
vs.
MARTIN MAGINNIS.

Depositions taken by and before E. E. Farman, 2d, a notary public in and for Montana Territory, on the 29th day of June, A. D. 1883, under and by virtue of a notice, dated June 23, 1883, June 29, 1883, hereto annexed. Wm. H. Dewitt appeared as counsel for the contestant, and W. J. McCormick and W. Y. Pembleton.

Counsels for the contestee appeared, and by consent of counsel this matter was duly adjourned until 7 o'clock p. m., June 29, 1883.

JUNE 29, 1883—7 o'clock p. m.

Counsels for the contestant and contestantee appeared, and by mutual consent adjourned until 7 o'clock p. m., June 30, 1883.

JUNE 30, 1883.

Counsel for the said parties appeared.

W. J. STEPHENS, being duly sworn, testified as follows, to wit:

Q. What is your full name?—A. William J. Stephens.

Q. What is your occupation?—A. Attorney-at-law, county clerk of the county of Missoula, Montana Territory.

Q. Where is your residence?—A. Missoula, Missoula County, Montana Territory.

Q. What official position, if any, did you occupy in Missoula County, Montana Territory, on the first day of December, 1882, and during all the year 1882 prior to that date?—A. Probate judge, and *ex-officio* county clerk and recorder.

(Paper shown witness.)

Q. What is this paper?—A. It is a transcript of the records of the proceedings of the county commissioners of the county of Missoula, Montana Territory, of the special session held on the 18th day of September, 1882; also, on the 2d day of October, 1882.

Q. What is this written on the last page of this paper?—A. My certificate, under the seal of the county clerk of Missoula County, Montana Territory, a part of the proceedings on the dates respectively, and on all the proceedings in relation to election precincts.

(Paper offered in evidence, received under no objections, and marked "Exhibit A," and hereto attached, which said paper being the one hereto testified to by witness.)

Q. At the election for Delegate to Congress from Montana Territory, held on the 7th day of November, 1882, was there any election precinct in Missoula County, Montana Territory, called O'Keeffe's precinct other than O'Keeffe's precinct mentioned in the transcript aforesaid?—A. No, sir.

Q. At the election aforesaid, was there any election precinct in Missoula County, Montana, called Thompson's precinct other than the Thompson precinct mentioned in said transcript?—A. No, sir.

Q. At the election aforesaid, was there within Missoula County, Montana Territory, any other precinct called Thompson River precinct other than the Thompson River precinct mentioned in said transcript?—A. No, sir.

Q. Is this transcript, above identified, a complete transcript of the record of the proceedings of the board of county commissioners of said Missoula County in the reference to establishing election precincts?—A. Yes, sir.

Cross-examination:

Q. State at whose instance and request the precincts established, as enumerated in transcript above referred to, were established, and the necessity for the same; and were such precincts established at the instance or request of either Democrats or Republicans, or were they established at the request of members of both parties?

(Contestant objects to the question so far as it relates to the persons or the politics of those who requested the establishment of said precincts.)

A. My recollection of that is that, as far as the O'Keeffe's precinct is concerned, there was a petition sent to the board signed by about twenty persons. I don't know their politics. As to the precincts at Thompson and Thompson River, respectively, they were established through several letters sent by parties, some letters having two or three names to them, some signed by one person, stating the necessity of having election precincts set off there for the convenience of voters. Those letters were received on different dates prior to the special session of said commissioners—that is, prior to October 2d, 1882. I cannot recall the politic of any of the parties who wrote the letters, and I don't recollect any of the names except one; his name was Eddy, whose initials I do not recollect.

Q. State, if you know from your own personal knowledge, what distance the O'Keeffe's precinct, Thompson precinct, and Thompson River precinct were from any established precincts, respectively.—A. The nearest established precinct to O'Keeffe's precinct is Missoula, about 12 miles; the nearest established precinct to Thompson River precinct is Horse Plains, about 20 miles, I think; and the nearest established precinct to Thompson is also Horse Plains, about 35 miles.

Q. Were you personally present at the election held at Thompson River on the 7th day of November, 1882, and was said election, from your knowledge and observation, conducted in a fair, open, and in an impartial manner, and without any species of bulldozing?

(Objected to as being leading by contestant's counsel.)

A. The precinct that I attended, Thompson River, was conducted in a fair, open, and impartial manner; every person that desired to vote, and was competent to do so, was allowed to vote.

Redirect:

Q. Are you familiar of the county comprised within Thompson River precinct, aforesaid?—A. My acquaintance of the general topographic of the country is limited, nor have I much acquaintance of its people.

Q. On the 7th day of November, 1882, about what was the resident population of Thompson River precinct?—A. As far as I could judge from what I saw, I should think about seven hundred men.

Q. From your knowledge and observation of that precint and those seven hundred men, how many of these men were residents within Montana Territory on or before May 6, 1882?—A. I have no means of knowledge, for I visited that country only in November of that year.

Q. Did you then ascertain, or do you now know, what the occupation of those 700 men, or the majority of them, was at that time?—A. They were comprised of railroad-graders, lumbermen, wood-cutters, mill-men, tie-drivers, tie-cutters, teamsters, traders, and limited number of farmers.

Q. Were not the great majority of them engaged in the construction, in one department or another, of the Northern Pacific Railroad?—A. I think they were.

Q. Do you know whether or not the Northern Pacific Railroad had in their employ any men engaged in the occupation which you have heretofore mentioned on or before May 6, 1882, at said Thompson River precinct?—A. That I could not tell. I only visited that county in November, 1882.

Q. When you visited there in November, 1882, did you ascertain when, or about when, those men came there?—A. I did not.

Q. Did you ever ascertain when they came there?—A. I did not, and don't know now.

Recross:

Q. Did both parties, on the day of said election, have chalengers at the poles?—A. There was scarcly any challenging done. It was frequently stated by persons at the poles there that no person ought to vote that had no right to. This expression was remarked on number occasions.

Q. Following the line of the Northern Pacific Railroad, can you state, as indicated by the map of said road and of the Territory—can you approximate—the distance in miles from Thompson precinct to the western boundary of Montana Territory?—A. I cannot. I can tell the distance from Missoula to Thompson River, which is about 104 miles.

Redirect:

Q. What is your best recollection of the time when the Northern Pacific Railroad reached the boundary of Missoula County?—A. I have no recollection as to the time. I have been so busily engaged I did not pay any attention to those matters.

W. J. STEPHENS.

Subscribed and sworn before me this 30th day of June, 1883.

[SEAL.] E. E. FARMAN, 2D,
Notary Public.

EXHIBIT A.

1882. *County commissioners' court of the county of Missoula, Montana Territory.*

SEPT. 18—11½ a. m.

Court met in special session, according to notice given that they would set as a board of equalization on the 3d Monday of September, to wit, Sept. 18, 1882. Present: David Austin, chairman board; Moses Clumens, county commissioner, and W. J. Stephens, county clerk.

Adjourned till one p. m.

SEPT. 18—1 o'cl'k p. m.

Present: Same officers.

Board proceeded to the examination of the assessment-roll as returned by the assessor for 1882.

Application of F. H. Woody, on the part of S. W. Blain, for reduction of tax on Blain property, considered and not allowed.

Petition for an election precenct at O'Keeffe's Creek, to be called O'Keeffe's precinct, examined, considered, and allowed; and

Ordered, That the election be held at O'Keeffe's Station; that O. B. Jones, Thomas Nugent, and George Church be, and are hereby, appointed judges of election, and that Thomas Nugent post election notices.

Ordered, That notice be given that the board will meet on the 2d day of October, to open proposals for building bridges and repearing the court-house.

DAVID AUSTIN,
Chairman Board County Commissioners.

County commissioners' court of the county of Missoula, Montana Territory.

OCTOBER 2ND, 1882—1 o'clock p. m.

Court met in special session, with the following officers present: David Austin, chairman of board co.'s court; Moses Clemens, commissioner.

Petition for an election precinct at Thompson examined, considered, and allowed; and

Ordered, That the election be held at E. A. Eddy's store; that David M. Larner, D. D. Kingsbury, J. J. Thompson be, and are hereby, appointed judges of election, and that D. D. Kingsbury post notices of election.

Petition for an election precinct at Thompson River examined, considered, and allowed; and

Ordered, That the election be held at H. Kruse boarding-house; that Henry Kruse, I. G. Abbott, J. Wallace be, and are hereby, appointed judges of election, and that I. G. Abbott post notices of election.

DAVID AUSTIN,
Chairman Board County Commissioners.

TERRITORY OF MONTANA,
Missoula County, ss:

I, W. J. Stephens, probate judge, *ex-officio* county clerk of Missoula county aforesaid, and clerk of the board of county commissioners, do hereby certify that the foregoing is a correct copy of the proceedings of the board of county commissioners of said county, held on the 18th day of September, 1882, and the 2d day of October, 1882, and all of said record which relates in any way whatever to establishing election precincts.

In witness I have hereunto set my hand and the seal of office, this first day of December, A. D. 1882.

[SEAL.] W. J. STEPHENS,
County Clerk.

In the matter of the contested election for Delegate to the 48th Congress from Montana Territory.

ALEXANDER C. BOTKIN
v.
MARTIN MAGINNIS.

Hon. MARTIN MAGINNIS:

SIR: You will please take notice, that on the 23d day of July, 1883, at 10 o'clock in the forenoon of that day, at the office of E. E. Farman, 2d, in the city of Missoula, Montana, before E. E. Farman, 2d, esq., notary public, I will take the depositions of J. J. Smith, W. W. Russell, Robert Woods, Thomas Poole, E. A. Kenney, W. H. Dickinson, John Arthur, R. W. Wilkinson, and (in pencil: David Kennedy) Smith, all of said city of Missoula, Montana, to be used in behalf of the contestant in the above-entitled matter.

Dated 20th July, 1883.

Yours, &c.,

ALEXANDER C. BOTKIN,
Contestant.

TERRITORY OF MONTANA,
County of Missoula, ss:

J. J. Smith, being duly sworn, says, that on 21st day of July, 1883, at Missoula, Missoula County, Montana, he personally served a copy of the within notice on W. J. McCormack, esq., attorney for Martin Maginnis, the contestee, by giving the same to, and leaving the same with him personally.

JACOB J. SMITH.

Subscribed and sworn to before me this 24th day of July, 1883.

E. E. FARMAN, 2D,
Notary Public.

(Indorsement:) *In re* Alexander C. Botkin *v.* Martin Maginnis. Notice of taking proofs.

In the contested election for Delegate to the 48 Congress from Montana Territory.

ALEXANDER C. BOTKINS
vs.
MARTIN MCGINNIS.

Depositions taken by and before E. E. Farman, 2d, a notary public in and for Montana Territory, on the 23d day of July, A. D. 1883, under and by virtue of a notice dated July 20, 1883, hereunto annexed. Geo. Randolph appeared as counsel for the contestant, and W. J. McCormick, counsel for the contestee, appeared, and by consent of counsel this matter was duly adjourned until ten o'clock a. m., July 24, 1883.

JULY 24, 1883.

At 10 o'clock counsel for the contestant and contestee appeared.

JOHN W. ARTHUR, being duly sworn, testified as follows:

Q. Are you over the age of 21 years?—A. I am 34 years of age.

Q. Do you reside in Missoula, M. T.?—A. I do; have lived in Missoula about one year.

Q. Where did you reside before you came to Missoula, and how long?—A. I resided in Spokane Falls, W. T., about three years. I was in Montana about six weeks before I came here.

Q. What part of Montana?—A. On the line of the Northern Pacific R. R.

Q. Do you know where the line between Montana Territory and Idaho is?—A. All I know is what I have been told by the surveyors of the Northern Pacific R. R.

Q. Do you know by general repute where the line is?—A. I know where they claimed the line to be, and where they collected licenses and served legal process in the two Territories.

Q. Were you on the 8th day of May, 1882, familiar with the country this side of that place?—A. Yes, sir.

Q. Do you know where Thompson, Thompson River, and Horse Plain precincts are?—A. Yes, sir.

Q. Which side of the line do you understand these precincts are?—A. Montana side.

Q. On the 8th of May, 1882, was the country embraced in those precincts settled? If so, to what extent?—A. There were but few people there—a few tie-men and surveying parties, & a saw-mill.

Q. Were there many ranchmen?—A. There were some at Horse Plains; none beyond there.

Q. How many men over the age of 21, in your judgment, were at or about Horse Plains in May, 1882?—A. I don't think there were over 50 or 60 at that time.

Q. How many at Thompson's?—A. About 30; not to exceed 40; nearly all tie-men.

Q. How many at Thompson River?—A. Probably 40 or 50; nearly all tie and mill men.

Q. By whom were those tie-men employed?—A. I think by Eddy, Hammond & Co.

Q. Were they doing railroad work?—A. They were getting out ties and timber for the railroad.

Q. At what time did the graders cross the line into Montana?—A. I think the first graders crossed about the first of April.

Q. How many crossed at this time?—A. I think about 3 camps.

Q. How many do you think were in these camps?—A. About 130 to 200 men to each camp.

Q. How many of them came into the Territory of Montana before the 6th day of May, 1882?—A. I think the three camps came into the Territory before the 6th day of May, 1882.

Q. Where were those 3 camps on the 6th day of May, 1882?—A. They were stationed 2 or 3 miles apart, from Herring Rapids this way.

Q. What side of Horse Plains were they?—A. On the west side.

Q. Excepting these 3 camps, how many men over the age of 21 years were within those 3 precints on the 6th day of May, 1882?—A. I would judge, outside of those three camps, including the right-of-way men, there were 500 men.

Q. How many right-of-way men?—A. About 300 men.

Q. When did the remainder of the graders and track-layers cross the line?—A. In June & July, 1882.

Q. About how many men crossed in June and July?—A. I think there were 1,600 crossed the line into Montana; not less than that number.

Q. Were the bulk of those men, & including those you have spoken of, there Nov. 6, 1882?—A. I don't know. I was there three or 4 days before the election.

Q. Were the bulk of those men there at that time?—A. I recognized nearly all the men to be the same men that crossed the line in June & July, 1882. There were but very few that I had not met in Idaho & Washington Ter's. I was connected with the pay-car of the N. P. R. R., & saw all the men every month for about twelve months.

Q. Are those men there yet?—A. I have not been down there since the 6th day of Nov., 1882

Q. Did those men come to Montana to reside?—A. I don't think they did. I should judge not.

Q. How were the great bulk of those men employed?—A. They were employed by the R. R. Co. to do R. R. work—balastering, laying track, grading, & building bridges, &c.

Q. Have you inspected the election return on file?—A. I have looked over a portion of the names.

Q. Did you recognize the names of any of the persons you had met in Idaho and Washington Territories?—A. I did; a number of them.

Q. Outside of men employed from R. R. work, building and constructing the R. R., &c., how many men over the age of 21 years were within those precincts on the 8th day of Nov., 1882?—A. Think 1,200 or 1,500 men.

Q. What propotion of those 1,200 should you judge were there on the 6th day of May, 1882?—A. Not to exceed 200 men.

Q. Of those 200, what were they employed in?—A. Merchants, saloon-men, gamblers, and clerks.

Q. Of that lot, did you know them in Idaho & Washington?—A. I did.

Q. At the time you knew them were they following up the R. R. ?—A. Yes, sir.

Cross-examination:

Q. You say there were between the middle of June & July about 1,600 men?—A. I think not; about 1,000 white men. I should think there were about 1,600 that crossed the line in June & July, 1882.

Q. When did you come to Missoula?—A. The first of May, 1882.

Q. State where the dividing line between Montana and Idaho is on the N. P. R. R.—A. Between Herring Rapids and Cabinet Landing.

Q. State how far west of Herring Rapids does the line cross the R. R. ?—A. It is about one mile west of Herring Rapids. This is what I was told by the engineering party.

Q. What is the distance to that point from Missoula?—A. I should judge 175 or 180 miles.

Q. Where were you living on the first of April, 1882?—A. I was on the R. R.

Q. When was the track layed to Herring Siding?—A. About the 10 or 11 of May, 1882.

Q. Was you there at this time?—A. I was not.

Q. What was the last time you was Herring Siding?—A. I think it was the 3d or 4th of May, 1882.

Q. How far east of Herring Siding or in Montana Territory was the grade of the N. P. R. R. completed at this time?—A. There was none of it.

Q. How far east was there any grading done?—A. About 6 or 8 miles. There were about 3 camps of white men and a large number of Chinamen at work this side of Herring Siding. The work was not continuous; it was done here & there.

Q. You state on the 8th of May, 1882, there were 50 or 60 men at Horse Plains; Thompson, 40, and Thompson River, 50 men, employed by Eddy, Hammond & Co. State who constitutes the firm of Eddy, Hammond & Co., & where are they doing business?—A. They are a firm doing business in Missoula, M. T.

Q. You state that 3 or 4 days before the 6th day of Nov., 1882, you were at Horse Plains, Thompson, and Thompson River, the three election precints mentioned in your testimony. Now state on what business you visited those precincts.

(Objected to by contestant's counsel on the ground that it is immaterial.)

A. I went down there to use what influence I could, if I had any, to elect Mr. E. A. Kenney, Republican candidate for sheriff.

Q. Did you use your efforts to induce persons that you were acquainted with to vote for A. C. Botkins, the contestant?

(Objected to as immaterial.)

A. I did not.

Q. What precinct was you at on the day of election?—A. I was at Missoula.

Redirect:

Q. Were those men employed by Eddy, Hammond & Co. employed in R. R. construction?—A. They were. They were getting out R. R. ties & timber for the construction of the road.

Recross:

Q. What time did you arrive in Missoula, M. T.?—A. About the 21st day of May, 1882.

JOHN W. ARTHUR.

Subscribed and sworn to before me this 24 day of July, 1882.
[SEAL.] E. E. FARMAN, 2D,
Notary Public.

ROBERT W. WILKINSON, being duly sworn, testifies as follows:

Q. State if you are of full age; where you reside, and your occupation.—A. Am 33 years of age; reside in Missoula, and am a barber.

Q. How long have you been in Missoula, and where did you reside before coming to Missoula?—A. Resided here about one month. Followed up the railroad about 17 or 18 months before coming to Missoula.

Q. Do you know where the line between Idaho & Montana crosses the R. P. R. R.?—A. I do not. I know where it is said to be. People paid their licenses in Montana, at Cabinet Landing.

Q. What time did the grade of the N. P. R. R. reach Cabinet Landing?—A. I was at Cabinet Landing on the 25 day of April, 1882, & the grading was not graded near there at that time.

Q. How long after that time did the grading reach Cabinet Landing?—A. It was not until the month of June, 1882.

Q. Were there any grading or any employees of the road this side of Cabinet Landing on the 6th day of May, 1882?—A. Not many; there may have been a few.

Q. On the 6th day of May, 1882, was the country there & this side of there settled? If so, how?—A. At Cabinet Landing the country was not settled very much.

Q. How long was you at Cabinet Landing?—A. About 3 months.

Q. While you was there, should you judge, how many men came there?—A. I think there were 1,200 white men employed by the R. R. & worked at this point.

Q. When did the bulk of those men arrive there?—A. I should think it was the latter part of May or for part of June.

Q. Before they came, how many men were there, or in that neighborhood?—A. There might have been 500.

Q. Were those men that were there before the road employees arrived there located permanently?—A. No; I don't think any one was located permanently; they were following up the road.

Q. Do you know where Thompson and Thompson River is?—A. I know where Thompson Crossing is.

Cross-examination:

Q. Do you know where Herring Siding is?—A. Cabinet Landing is said to be 12 miles west of Herring Siding. Cabinet Landing is between Herring Siding and the Montana line.

ROBERT W. WILKINSON.

Subscribed and sworn to before me this 24 day of July, 1883.
[SEAL.] E. E. FARMAN, 2D,
Notary Public.

EDWIN A. KENNEY, being duly sworn, testifies as follows:

Q. What is your age, residence, and occupation?—A. Am 39 years of age; live in Missoula, Missoula Co., M. T.; have no occupation.

Q. How long have you been a resident of Missoula Co.?—A. Since Sept., 1874.

Q. Are you acquainted with the country embraced in Thompson, Thomson River, and Horse Plain precincts?—A. I am.

Q. Prior to the coming in of the N. P. R. R. Co. & their employee, how was that country settled?—A. Very sparcely settled; very few settlers there.

Q. How may persons over the age of 21 years were there at Horse Plains prior of the R. R. coming in there, or their employees?—A. I should judge 25.

Q. And within Thompson River precincts?—A. I was at Thompson precinct during the month of Aug., 1882. There was in & about Thompson River, then call Thomp-

son Crossing, about 50 men within the radias of 8 miles, employed by Eddy, Hammond & Co., making ties and getting out timber. That was Thompson River precincts.

Q. How many men was there in Thompson precinct?—A. I think there was about 75 men there.

Q. Where does the line between Idaho & Montana cross the N. P. R. R.?—A. It was my duty, in my official capacity as assessor and dept. col., to ascertain as near as possible where the Territorial line was, and I obtained information from the chief engineer, Mr. Kingsbury, of the N. P. R. R. Co., that he had taken observation and had located the line about 6 miles east of Cabinet Landing, crossing the R. R. at a place called Priest Rapids.

Q. When, if you know, did the first graders cross the line?—A. I do not know.

Q. On the 6th day of May did you know whether they had crossed the line?—A. No, sir. It was August when I went down.

Q. In Aug., 1882, when you were there, how far east was the road graded?—A. The graders had reached a place 12 miles east of Rock Island.

Q. How far is that place west of Horse Plains?—A. About 50 miles.

Q. In August, 1882, were there any large number of men east of Rock Island?—A. The greater force of the white men of the N. P. R. R. were then west of Rock Island; from 500 to 800 white men were this side of Rock Island.

Q. Were all those 500 or 800 men employed in the construction of the R. R.?—A. No, sir.

Q. What were they doing?—A. Cutting ties & piling, clearing right of way, merchant, clerks, saloon-men, & hangers-on.

Q. Were the bulk of those men employed at R. R. work of one kind and another?—A. Perhaps more than ½.

Q. What direction is Thompson and Thompson River precincts from Rock Island?—A. Nearly east.

Q. Is Horse Plains east or west of Thompson precint?—A. East.

Q. How far east is Thompson from Rock Island?—A. About 30 miles.

Q. How many men were there at Horse Plains, Thompson, and Thompson River precincts in August, 1882—white men over the age of 21 years?—A. 200, or thereabouts.

Q. In August, 1882, how far east was the railroad-track layed?—A. Within a point four miles west of Rock Island.

Cross-examination:

Q. How is the boundary-line between Idaho and Montana from Rock Island?—A. I should think about 20 miles.

Q. How many white men over the age of twenty-one years, to your best knowledge & belief, were employed between the Horse Plains precinct and the boundary line between Montana & Idaho in cutting ties, piling, employed about mills, and in construction of the N. P. R. R. during the month of August, or during the time you was there?—A. I should think 2,500 or 3,000 men.

Q. State, if you know, what per cent. of this 2,500 or 3,000 men were employed between said points on the 6th day of May, 1882.—A. I do not know.

Q. What is the distance between Horse Plains and the boundary line between Montana and Idaho?—A. Nearly 75 miles.

Redirect:

Q. Were any of those 2,500 or 3,000 men, if so, how many, working upon the Flat Head Indian reservation?—A. I could not say positively as there were any.

EDWIN A. KENNEY.

Subscribed and sworn to before me this 24th day of July, 1883.

[SEAL.] E. E. FARMAN, 2D,
Notary Public.

THOMAS B. POOLE, being duly sworn, testifies as follows:

Q. What is your age, residence, and occupation?—A. Am 26 years of age; Missoula, Missoula County, M. T.; occupation, barkeeper.

Q. Before you come here did you follow the construction of the R. R.?—A. About 5 or 6 months, off and on. I came here April, 1883.

Q. Where was you in May, 1882?—A. Astoria, Oregon.

Q. Were you ever at Cabinet Land? If so, when?—A. May 20, 1882.

Q. Was the grade of the N. P. R. R. built to that place at that time?—A. It was finished to about ¼ of a mile west of Cabinet Landing.

Q. How many white men over the age of 21 years was there then in the town & east of it?—A. To the best of my knowledge, there were about 300.

Q. What were the bulk of those employed at?—A. Graders, piling, saloon-keepers, storekeepers, restaurant hangers-on, & steamboat-men.

Q. Were the majority of the men located there, or simply following the R. R.?—A. Some were located there for a short time; in fact, nearly all were following the R. R.

Q. Were you at any point east of there in May, July, June, or August?—A. In August I was in Rock Island.

Q. Had the grade reached Rock Island at that time?—A. Not quite.

Q. How many white men over the age of 21 years were at Rock Island in Aug., 1882?—A. 600 or 800, as near as I can guess.

Q. Do you know where the boundary line between Idaho & Montana line is?—A. I do; at least, it has been pointed out to me.

Q. State, if you know, when the first body of graders crossed that line.—A. I should think about the first of June.

Q. Prior to that time, were there many white men over the age of 21 years east of that point?—A. No, sir.

Q. Do you know anything about the settlement of that country now?—A. I do not.

Cross-ex.:

Q. On what day did you leave Astoria?—A. I do not recollect the day. I know I landed at Cabinet Landing on the 20th day of May, 1882; I went directly from Portland to Cabinet Landing; I stopped at Sandy Point one night, and at Ellis Port one night.

B. Do you know where the boundary line is between Idaho & Montana Territory is?—A. I do; it has been shown to me.

Q. State where it is.—A. 5 miles east of Cabinet Landing.

Q. By what authority, if any to your knowledge, was the boundary line between Idaho & Montana established at that point?—A. All I know is what I got from the engineers.

Q. Are there any monuments of any character & description erected at this particular point, & marked boundary line between Montana & Idaho; or any inscription to that effect?—A. There was none that I know of.

Q. Were there any parties or persons east of this line, to your knowledge, employed on the railroad cutting ties, clearing right of way, selling goods, retailing liquors, or otherwise employed on the line of the Norther. P. R. R. at the time you reached Cabinet Landing?—A. I don't know.

Q. What is the distance from Cabinet Landing to Herring Rabids?—A. I do not know.

Q. Where were you on election-day last November, 1882?—A. I was at Thompson precinct.

Q. Did you vote?—A. I did.

THOMAS B. POOLE.

Subscribed and sworn to before me this 24th day of July, 1883.

E. E. FARMAN, 2*d*,
Notary Public.

DAVID KENNEDY, being duly sworn, testified as follows:

Q. State your age, occupation, residence, & occupation.—A. Am 27 years of age; residence, Missoula, M. T.; occupation, saloon-keeper.

Q. How long have you resided here?—A. Since the middle of March.

Q. Before that were you following the R. R.?—A. Followed the N. P. R. R. most of the time since 1881.

Q. Where were you May 6, 1882?—A. I came to Cabinet Landing to stay about May 6, 1882.

Q. Where, if you know, does the line between Idaho & Montana cross the line of the R. R.?—A. I don't know. There was a dispute about it down there, I paid my license in Montana when I was at Cabinet Landing. I was told afterwards—told by the engineers—that the line was about 2 miles east of Cabinet Landing.

Q. Do you know where Horse Plains, Thompson, and Thompson River precincts are?—A. I passed through them coming from Cabinet Landing to this place. They are east of Cabinet Landing.

Q. Had the grade reached Cabinet Landing on May 6, 1882?—A. No, sir.

Q. How far from there?—A. I think 15 or 20 miles west of Cabinet Landing.

Q. Had the right-of-way men reached there?—A. They were within a mile or a mile and a half of there.

Q. How many white men over the age of 21 years were at or near Cabinet Landing, not including right-of-way men and graders?—A. I think there were 200 or 300.

Q. Were these men located there, or following the N. P. R. R.?—A. Following the R. R.

Q. Was the county east of Cabinet Landing settled? If so, how?—A. A few men were there making ties.

Q. When did the first body of graders reach Cabinet Landing?—A. On or about May 24, 1882.

Cross-ex.:

Q. What enable you to state with such distict recollection that you reached Cabinet Landing on the 6 of May, 1882?—A. I left Sandy Point about the first of May, 1882, and reached Cabinet Landing between the first and 6th of May, 1882. My statement that the graders reached Cabinet Landing is based—on or about May 24 or 25—is based upon the statement of Mr. Poole, who swore that he reached there on the 20th, & the graders got there after Mr. Poole did.

Q. Was there no grading done at or east of Cabinet Landing when you reached there on the the sixth of May?—A. No, sir.

Q. What business were you engaged in at Cabinet Landing?—A. Keeping saloon. I think I paid the revenue licence in Montana Territory, and county license in Idaho; I am not possitive.

DAVID KENNEDY.

Subscribed & sworn to before me this 24 day of July, 1883.

[SEAL.] E. E. FARMAN, 2D,
Notary Public.

JACOB J. SMITH, being duly sworn, testifies as follows:

Q. State your age, residence, & occupation.—A. Am 34 years old; residence, Missouli County, Montana Territory, for one and a half; occupation, jewelery.

Q. Do you know the county embraced in the election precincts of Thompson, Thompson River, & Horse Plains?—A. I do.

Q. What is there at Thompson?—A. Nothing; there is not fifteen persons living there.

Q. At Thompson River?—A. Nothing—not to exceed 15 residences; there are a few ranches taken up.

Q. How many are there at Horse Plains precinct?—A. There are not to exceed 15 persons; but about 6 miles from there there is about 200 railroad men.

Q. Is the country about those plases settled? If so, how?—A. They are not settled.

JACOB J. SMITH.

Subscribed & sworn to before me this 24 day of July, 1883.

[SEAL.] E. E. FARMAN, 2D,
Notary Public.

I hereby certify that the witnesses above named severally came before me, at the times and places named in the notices and in accordance with the stipulations of the parties herein; that they were severally duly sworn and examined; that the questions propounded to them respectively, and their answers thereto, were written down in their presence and in the presence of the counsel of the parties herein, and, after being thus written out, the testimony of said witnesses was duly attested by them, respectively, as by law required.

Dated at Missoula, M. T., July 24th, 1883.

[SEAL.] E. E. FARMAN, 2D,
Notary Public.

(Indorsement:) A. C. Botkin *v.* Martin Maginnis. Testimony in behalf of A. C. Botkin.

No. 4.

In the matter of the contested election for Delegate to the Forty-eighth Congress.

ALEXANDER C. BOTKIN, CONTESTANT,
vs.
MARTIN MAGINNIS, CONTESTEE.

The taking of evidence in the foregoing contest was resumed before the undersigned on this 30th day of July, A. D. 1883, at Helena, M. T., at 2 p. m., at my office, corner Jackson st. and Broadway, pursuant to the notice hereto attached and marked Exhibit A, and made a part of this return; and thereupon the said contestant presents

the affidavit hereto attached and marked D. Thereupon the contestant further presents the abstract of votes cast for Delegate to Congress in 1882, as returned to and canvassed by the Territorial board of canvassers, duly certified by the Territorial auditor, under his seal, which is hereto attached and marked Exhibit C.

Thereupon, the said contestant produced, as a witness in his behalf, DANIEL H. WESTON, a witness of lawful age, who, being by me first duly sworn according to law to testify the truth, the whole truth, and nothing but the truth, in response to the interrogatories propounded, did depose and say as follows:

Question. State your name, residence, official position, and how long you have held the same?—Answer. Daniel H. Weston; Helena, Montana; and occupy the position of Territorial treasurer, and have held that position for eight years, and by virtue of that position I have been one of the board of Territorial canvassers for seven years last past.

Q. Were you present at the canvassing of the returns of the vote of the Territory of Montana for Delegate in the Forty-eighth Congress cast at the election in 1882? And if you answer yes, state who constituted such board, and who were present at such canvassing?—A. Yes. There were present Alexander C. Botkin, U. S. marshal, B. F. Potts, governor, and myself, who constituted the board of Territorial canvassers, the governor acting as umpire in case of a disagreement between the other two. There was also present Joseph P. Woodman, auditor.

Q. At what time was this canvass held?—A. The 12th day of December, 1882.

Q. What remark was made by the said Alexander C. Botkin, if any, at the time of signing the certificate of said canvass?—A. He said, "I sign this under protest, and without prejudice to my right of contest." This was the substance of what he said, if not the exact words. And further the deponent saith not.

DANIEL H. WESTON.

Subscribed and sworn to before me this 30th day of July, A. D. 1883.

[SEAL.] JNO. W. EDDY,
Notary Public of Montana.

And thereupon the said contestant produced George E. Stilwell, a witness of lawful age, who, being first duly sworn according to law to testify the truth, the whole truth, and nothing but the truth, to the interrogatories propounded, did depose and say as follows:

Question. State your name, age, residence, and what position, if any, you held during the month of November, A. D. 1882.—Ans. George E Stilwell; age, 30 years; Miles City, Montana; and during the month of November, 1882, I occupied no official position whatever.

Q. Were you present at Miles City, Montana, on the day and day preceding the Territorial election for Delegate to Congress in 1882?—Ans. I was.

Q. Where were you on the night previous to the election aforesaid?—Ans. I was at the house of Dora Reece all that night, in said Miles City.

Q. State whether thereafter you occupied any official position in the county of Custer, of which said Miles City is the county-seat.—A. I occupied the position of county clerk and recorder of said county from the 7th day of March, 1883.

Q. Did there come into your possession, as such county clerk, any books or papers appertaining to the election for Delegate in Congress held at Miles City precinct in 1882?—A. There did.

Q. What books pertaining to said precinct election came into your possession as such county clerk?—A. Four poll-books.

Q. Did you, on or after the 7th day of March, 1883, examine such poll-books?—A. I saw them.

Q. Had you ever seen those books or any of them before?—A. I had.

Q. When did you first see those books or any of them before?—A. I saw one of them on the sixth day of November, 1882, and all of them on the 7th day of November, 1882.

Q. In whose possession was the book which you saw on the night of the sixth day of November, 1882; and where was it?—A. In the possession of Donald F. McMillan, at the house of the aforesaid Dora Reece, in Miles City.

Q. What, if anything, was done or then being done with the said poll-book?—A. The said Donald F. McMillan was writing said poll-book up with fictitious names.

Q. State, if you know, how many fictitious names the said Donald F. McMillan wrote in said poll-book.—A. Exactly four hundred.

Q. State what next was done in your presence after these four hundred names had been written in this poll-book.—A. Four hundred ballots, straight Democratic, containing the name of Martin Maginnis for Delegate in Congress, were folded and placed

in the said poll-book containing the said 400 fictitious names, underneath the outside cover.

Q. What was then done with the poll-book containing the 400 ballots and 400 fictitious names?—A. It was placed, with other poll-books, which were kept on hand for the use, if necessary, at the Miles City precinct at the election to be held next day, which day was the 7th day of November, 1882, in a newspaper, and tied up.

Q. When next did you see those poll-books, and in what capacity were you then acting, and what was done with them?—A. I was appointed clerk of election for the Miles City precinct, and saw all the books that were used or expected to be used at the election on the 7th day of November, 1882. I acted as clerk of said election. The poll-books, including the poll-book filled with fictitious names and ballots, at the noon recess of said election were placed in the ballot-box, with the ballots which had before been cast at the said election before the recess.

Q. State how many poll-books were used at this election at Miles City, and how they were numbered, if at all; and, if so, what was the number of the one which you say contained the fictitious names?—A. There were four poll-books used at said election. numbered one, two, three, and four, and the poll-book containing the said fictitious names was numbered two, (2.)

Q. When the recess was over at said election, what was done with the pool-books and the one containing the fictitious names and ballots?—A. At the opening of the ballot-box after recess, all the books placed therein before recess were taken out, but the four hundred ballots which were contained in book number two were left in the ballot-box.

Q. What was done with those four hundred fictitious ballots at the close of the election or thereafter?—A. They were counted with the legal ballots cast at said election, and were included in the returns.

Q. Who acted with you as the other clerk of said election?—A. Donald F. McMillan.

Q. What is your occupation?—A. Book-keeper, clerk, and accountant.

Q. Are you familiar with and in the habit of examining handwritings?—A. I am.

Q. Have you examined the poll-book lately of precinct thirty-two, of Custer County, known as Wooley's Ranche, for the election of Delegate in Congress in November, 1882?—A. Yes; I have.

Q. State whether or not, in your opinion, the signatures purporting to be the signatures of the judges and clerks of said election at said precinct were written by the same person.—A. In my opinion, the signatures of the judges and clerks at said precinct, number 32, otherwise designated as Wooley's Ranche, were all written by the same person.

Q. Have you recently examined the poll-book of Little Porcupine precinct for said election?—A. I have.

Q. State whether or not, in your opinion, the signatures purporting to be the signatures of the judges and clerks of said precinct at the said election were written by the same person.—A. In my opinion, they were.

And further this deponent saith not.

GEORGE E. STILWELL.

Subscribed and sworn to before me this 30th day of July, 1883.

[SEAL.] JNO. W. EDDY,
Notary Public in and for Montana.

In the matter of the contested election for Delegate to the Forty-eighth Congress.

ALEX. C. BOTKIN
versus
MARTIN MAGINNIS.

I hereby certify that the witnesses who are named above severally appeared before me, in accordance with the notice and the stipulation of the parties which are annexed hereto; that they were severally sworn and examined on oath; that the questions propounded to them, and their answers thereto, were reduced to writing in their presence, and are faithfully and correctly reported in the accompanying depositions; and that each for himself subscribed and attested his testimony in my presence.

[SEAL.] JNO. W. EDDY,
Notary Public in and for Montana Territory,
Resident at Helena.

No. 5.

EXHIBIT B.

In the matter of the contested election for Delegate to the Forty-eighth Congress.

ALEXANDER C. BOTKIN
vs.
MARTIN MAGINNIS.

TERRITORY OF MONTANA,
County of Lewis & Clarke, ss:

Alexander C. Botkin, being duly sworn, on oath says that he is the contestant in the above-entitled cause; that he served notice of contest upon the above-named Martin Maginnis as the law requires; that thereafter the affiant forwarded to the said Martin Maginnis a stipulation in writing that the taking of testimony should commence on the fifteenth of June, 1883, on the part of said contestant; and that said Martin Maginnis signed said stipulation, and forwarded to this affiant a telegraphic dispatch, in the words and figures following, to wit:

Dated Washington, 28, (meaning February 28, 1883.)

To ALEX. C. BOTKIN:

Is there misunderstanding regard taking testimony. Notified Chadwick. Inform you had signed stipulation week ago. Commence June fifteenth.

M. MAGINNIS.

That thereafter, and during the taking of testimony on the part of this affiant at Miles City, Montana, it was agreed that the attorney for the said contestee, Thomas R. Edwards, esq., should then and there take testimony on the part of said contestee, but that the time so occupied should not be counted as a part of the forty (40) days to which the contestant is limited; and that said stipulation was reduced to writing and signed by this affiant and by Thomas R. Edwards, esq., attorney for contestee, and is attached to the return of W. B. Towne, before whom such testimony was taken. That thereafter and during the taking of testimony on the part of this affiant at Glendive, Montana, it was agreed that the attorney for the said contestee, Thomas R. Edwards, esq., should then and there take testimony on the part of the said contestee, but that the time so occupied should not be counted as a part of the forty (40) days to which the contestant is limited; and that said stipulation was reduced to writing and signed by this affiant and Thomas R. Edwards, esq., attorney for contestee, and is attached to the return of ——— Palmer, before whom such testimony was taken. That the time so occupied in taking testimony under said stipulations on the part of the said contestee was seven days or more.

That on this 30th day of July, 1883, this affiant called upon the attorney for the said contestee for the stipulation first above mentioned, and that the said attorney failed and refused and still refuses and fails to produce the same. And further this affiant saith not.

ALEX. C. BOTKIN.

Subscribed and sworn to before me this 30th day of July, A. D. 1883.
[SEAL.]

JNO. W. EDDY,
Notary Public in and for Montana.

No. 6.

EXHIBIT C.

Abstract of votes cast for Delegate to Congress, 1882.

BEAVER HEAD COUNTY.

Precincts.	M. Maginnis.	A. C. Botkin.	Scattering.	Total vote.
Argenta	10	7		17
Bannack	42	53		95
Barrett's	24	5		29
Birch Creek	35	28		63
Bortell's	17	69		86
Davey's Flat	2	19		21
Dillon	158	207		365
Glendale	124	125		249
Horse Prairie	14	4		18
Lion City	43	103		146
Quartz Hill	4	4		8
Red Rock	17	14		31
Spring Hill	25	15		40
Totals	515	653		1,168

CHOTEAU COUNTY.

Arrow Creek	6	7		13
Benton	261	225		486
Carroll, (no polls)				
Clagett	24	3		27
Depuyer Creek	18	7		25
Eight-Mile Springs	9	2		11
Flat Coulee	6	4		10
Fort Conrad	25	2		27
Highwood	35	18		53
Lower Teton	12	3		15
Marias	77	3		80
Old Agency	46	12		58
Price Ranch	9			9
Sand Coulee	9	16		25
Shonkin	32	8		40
Sun River	24	19		43
Wilder's Landing	29	16		45
Totals	622	345		967

CUSTER COUNTY.

Big Porcupine, (no polls)				
Billings	303	262		565
Birney	22	10		32
Bull Creek	9	1		10
Canyon Creek	11	37		48
Coulson	39	19		58
Deadwood Crossing, Powder River	18	2		20
Etchetah	22	10		32
Forsyth	69	23		92
Froze to Death	14	8		22
Gotgesell's Ranch	4	16		20
Government Saw-Mill	22	8		30
Graveyard Bottom	25	12		37
Huntly	55	11		66
Iron Bluffs	27	2		29
Junction City	31	46		77
Lame Deer Creek	12	5		17
Lay's Ranch, (no polls)				
Liscomb's Ranch	3	6		9
Little Missouri, (rejected)				
Little Porcupine	58	5		63
Miles City	867	347		1,214
Milton	55			55
Nealis Ranch, (rejected)				

Abstract of votes cast for Delegate to Congress, 1882—Continued.

CUSTER COUNTY—CONTINUED.

Precincts.	M. Maginnis.	A. C. Botkin.	Scattering.	Total vote.
O'Fallon Creek	11	14	.....	25
Park City	68	52	.....	120
Powder River, Townsand Ranch, (no polls)	.....	.....	.....	.....
Prince Ranch, (rejected)	.....	.....	.....	.....
Rosebud, Simpson's House	.....	14	.....	14
Rosebud, S. side Yellowstone	14	16	.....	30
Sharp's Ranch	2	7	.....	9
Terry	28	12	.....	40
Tongue River, Tie Camp, (no polls)	.....	.....	.....	.....
Upper Crossing Musselshell, (no polls)	.....	.....	.....	.....
Woodliff's Ranch	35	8	.....	43
Wooley's Ranch, Musselshell	113	.....	.....	113
Young's Point, (no polls)	.....	.....	.....	.....
Totals	1,937	953	.....	2,890

DAWSON COUNTY.

Burns	10	4	.....	14
Glendive	447	93	.....	540
Keith	46	5	.....	51
Newton	30	6	.....	36
Totals	533	108	.....	641

DEER LODGE COUNTY.

Bearmouth	22	14	.....	36
Beartown	29	25	.....	54
Birney's	12	51	.....	63
Blackfoot	20	34	.....	54
Cable	26	33	.....	59
Carbon Moor	44	27	.....	71
Deer Lodge	209	201	5	415
Hatmark	29	31	.....	60
Hauck's	9	14	.....	23
Helmville	22	36	.....	58
Jefferson	19	18	.....	37
Lincoln	7	17	.....	24
McClellin	8	14	.....	22
New Chicago	61	71	.....	132
Philipsburg	77	101	.....	178
Pioneer	61	30	.....	91
Race Track	45	30	.....	75
Stone Station	15	11	.....	26
Vestel	3	5	.....	8
Warm Springs	7	36	.....	43
Willow Creek School-house	14	15	.....	29
Willow Glen	21	34	.....	55
Yam Hill	12	8	.....	20
Yreka	4	7	.....	11
Totals	776	863	5	1,644

GALLATIN COUNTY.

Bozeman	445	588	.....	1,033
Clark City	191	156	1	348
Cook City	5	17	.....	22
Cross River	295	79	.....	374
East Gallatin	45	39	.....	84
Elk Grove	70	58	.....	128
Flathead	16	21	.....	37
Gallatin City	41	146	.....	187
Hillsdale	27	12	.....	39
Huritus	30	134	.....	164
Mine City	162	170	.....	332
Park	8	12	.....	20

Abstract of votes cast for Delegate to Congress, 1882—Continued.

GALLATIN COUNTY—CONTINUED.

Precincts.	M. Maginnis.	A. C. Botkin.	Scattering.	Total vote.
Puett	3	16	.....	19
Richland	9	12	.....	21
Stillwater	29	90	.....	119
Sweet Grass	10	13	.....	23
West Gallatin	84	36	.....	120
Willow Creek	28	15	.....	43
Yellowstone, No. 1	14	57	.....	71
" " 2	24	22	.....	46
Totals	1,586	1,698	1	3,230

JEFFERSON COUNTY.

Basin City	21	14	.....	35
Beaver Creek	42	38	.....	80
Bedford	39	29	.....	68
Boulder City	56	42	.....	98
Cardwell	20	4	.....	24
Clancy	36	32	.....	68
Eight-Mile House	10	11	.....	21
Elk Horn, (no polls)	.....	.....	.....	.....
Fish Creek	17	12	.....	29
Gregory	25	125	.....	150
Jefferson City	22	81	.....	103
Jefferson River	5	1	.....	6
Lower Boulder	18	1	.....	19
Mitchell Gulch	18	20	.....	38
North Side Boulder	10	3	.....	13
Radersburg	56	63	.....	119
Rumley	49	19	.....	68
St. Louis	6	25	.....	31
White Hill	16	16	.....	32
Wickes	108	104	.....	212
Woodville	46	60	.....	106
Totals	*620	*700	.....	1,320

*The returns canvassed by the Territorial board give M. Maginnis 616 votes; A. C. Botkin, 704 votes—subsequently corrected as above by the county canvassing-board.

LEWIS AND CLARKE COUNTY.

Dearborn	14	28	.....	42
Finch Bar	5	2	.....	7
Gloster	82	88	.....	170
Greenhorn Maginnis	25	11	.....	36
Do.....McNally's	58	57	.....	115
Helena	479	866	.....	1,345
Lee Mountain	14	20	.....	34
Marysville	34	25	.....	59
Mitchell's	20	12	.....	32
Mouth of Nelson	20	15	.....	35
Mt. Pleasant, (no polls)	.....	.....	.....	.....
Mullen Tunnel	65	42	.....	107
Negus	9	21	.....	30
New Mission	19	13	.....	32
Park City	12	12	.....	24
Rock Creek	23	10	.....	33
Silver City	16	6	.....	22
Silver Creek	31	36	.....	67
South Fork	41	26	.....	67
Spokane	6	18	.....	24
Sun River	35	56	.....	91
Unionville	12	11	.....	23
Valley	36	57	.....	93
Virginia Creek	2	12	.....	14
Totals	1,058	1,444	.....	2,502

Abstract of votes cast for Delegate to Congress, 1882—Continued.

MADISON COUNTY.

Precincts.	M. Maginnis.	A. C. Botkin.	Scattering.	Total vote.
Alder	81	28	.....	109
Brandon	57	97	.....	154
Boulder	7	15	.....	22
Hot Spring, No. 1	22	21	.....	43
Do.....do... " 2	6	15	.....	21
Do.....do... " 3	40	68	.....	108
Jefferson..... " 1	54	69	.....	123
Do..... " 2	13	22	.....	35
Do..... " 3	14	22	.....	36
Madison ..... " 1	34	27	.....	61
Do..... " 2	18	25	.....	43
Do..... " 3	8	5	.....	13
Rochester ... " 1	16	18	.....	34
Do..... " 2	38	55	.....	93
Summit	1	8	.....	9
Union, No. 1	97	131	.....	228
Do... " 2	18	14	.....	32
Do... " 3	17	12	.....	29
Do... " 4	19	25	.....	44
Do... " 5	12	30	.....	42
Totals	572	707	.....	1,279

MEAGHER COUNTY.

Beaver Creek	5	34	.....	39
Belt	26	29	.....	55
Big Elk	5	7	.....	12
Caryon Ferry	30	24	.....	54
Chestnut	44	26	.....	70
Deep Creek	125	51	.....	176
Diamond	41	32	.....	73
Duck Creek	15	10	.....	25
Flat Willow	7	15	.....	22
Gold Run	58	68	.....	126
Hughsville	58	30	.....	88
Jimtown	13	4	.....	17
Maiden	91	81	.....	172
Martinsdale	36	30	.....	66
Merino	1	11	.....	12
Oka	4	19	.....	23
Philbrook	19	36	.....	55
Pittsburg	7	38	.....	45
Reedsfort	33	70	.....	103
Round Grove	106	31	.....	137
Sellew's Ranch	17	18	.....	35
Stuart's Ranch	98	68	.....	166
Ubet	6	10	.....	16
Utica	27	31	.....	58
Wegner Creek	11	10	.....	21
White's	8	11	.....	19
White Sulpher Springs	94	172	.....	266
Wolf Creek	9	25	.....	34
Totals	994	991	.....	1,985

MISSOULA COUNTY.

Baker Station	40	21	.....	61
Cold Spring	40	8	.....	48
Forest City	8	2	.....	10
French Town	67	18	.....	85
Horse Plains	180	12	.....	192
Missoula	278	210	.....	488
O'Keefe	79	37	.....	116
Selish	27	.....	.....	27
Skalkaha	16	12	.....	28
Stevensville	70	67	.....	137
Superior	7	5	.....	12

Abstract of votes cast for Delegate to Congress, 1882—Continued.

MISSOULA COUNTY—CONTINUED.

Precincts.	M. Maginnis.	A. C. Botkin.	Scattering.	Total vote.
Thompson	388	42	.....	430
Thompson River	314	15	.....	329
Victor	26	27	.....	53
West Side	20	14	.....	34
Willow Creek	27	42	.....	69
Yreka	8	2	.....	10
Totals	1,595	534	.....	2,129

SILVER BOW COUNTY.

Black Tail	9	35	.....	44
Butte	787	933	.....	1,720
Centenial Brewery	31	164	.....	195
Centerville	65	208	.....	273
Depot	57	68	.....	125
Divide	18	16	.....	34
Highland	8	7	.....	15
Meaderville	124	79	.....	203
Melrose	37	27	.....	64
Scheuer	110	152	.....	262
Silver Bow	24	21	.....	45
Silver Bow Junction	34	26	.....	60
Walkerville	340	183	.....	523
Totals	1,644	1,919	.....	3,563

Summary of votes cast in the Territory for Delegate in Congress, at the general election held November 7th, 1882.

Counties.	M. Maginnis.	A. C. Botkin.	Scattering.	Total vote.
Beaver Head	515	653	.....	1,168
Choteau	622	345	.....	967
Custer	1,937	953	.....	2,890
Dawson	533	108	.....	641
Deer Lodge	776	863	5	1,644
Gallatin	1,536	1,693	1	3,230
Jefferson	616	704	.....	1,320
Lewis and Clarke	1,058	1,444	.....	2,502
Madison	572	707	.....	1,279
Meagher	994	991	.....	1,985
Missoula	1,595	534	.....	2,129
Silver Bow	1,644	1,919	.....	3,563
Totals	12,398	10,914	6	23,318

I hereby certify that the above and foregoing is a true and correct copy of the abstracts of votes for Delegate to Congress from Montana Territory, at the election held on the 7th day of November, A. D. 1882, as returned by the county clerks of the several counties of said Territory, and canvassed by the board of Territorial canvassers.

Witness my hand and official seal, at Helena, Montana Territory, this twenty-eighth day of July, A. D. 1883.

J. P. WOOLMAN,
Territorial Auditor.

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48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 43.

NOTES

OF A

CONFERENCE WITH HON. WILLIAM W. DUDLEY, COMMISSIONER OF PENSIONS.

MARCH 8, 1884.—Referred to the Committee on the Payment of Pensions, Bounty, and Back Pay, and ordered to be printed and recommitted to the committee.
MARCH 31, 1884.—Ordered to be reprinted.

COMMITTEE ON PAYMENT OF PENSIONS, BOUNTY, AND BACK PAY,
Washington, February 16, 1884.

The CHAIRMAN [Mr. Warner, of Ohio]. The meeting of the committee to-day is called specially for the purpose of hearing the Commissioner of Pensions, who is now present. I will explain to the Commissioner that the committee has a large number of bills before it looking to the modification of the pension laws in various directions. Some of them have for their object the granting of pensions to all soldiers who served six months or longer in the Army; others propose to increase the pensions in various cases of disability, others propose to extend the provisions of the pension laws to employés in the Quartermaster's Department and in other Departments, and there are still others relating to the mode of awarding pensions, the evidence to be required, and so on. There are also several bills relating to prisoners of war, proposing to pension all soldiers who were prisoners of war for any length of time, and others proposing that a pension drawn by a soldier shall, in case of his death, pass to his widow, without requiring evidence that the soldier died from the disability for which he was pensioned. Then we have other bills proposing a repeal of the limitation on the arrears act so as to grant arrears in all cases where disability is found to have originated in the service. There are also bills providing for land grants to soldiers, to equalize bounties, and to make the pay of soldiers equal to gold. Now the committee has thought best not to report on any of these measures until it had first obtained such information as the Pension Office could give in relation to these various matters; and I would suggest to the Commissioner, unless he has his work otherwise laid out, that (although the information may have been already set forth in his annual report) it would be well at the outset of the statement which he is about to make, to outline for the benefit of the committee the general plan of the work of the Pension Office, giving us a statement of the total number of applications for pensions, the total number of pensioners on the rolls, and such other information of that general character as he may be able to give.

The COMMISSIONER. Well, I hardly know what would be the most perspicuous course for me to pursue in conveying to you the information you desire. I have been a very close student of the difficulties surrounding this pension business, and I have no doubt that I can make some suggestions which will be of interest to the committee, but I hardly know where to begin.

The CHAIRMAN. The difficulties especially are what we wish to be advised about.

The COMMISSIONER. There are a great many glaring inconsistencies in the law as it stands, which call, I think, for careful examination and for such revision and amendments as will make the pension law consistent and effective. In my annual report I have been particular to call attention to all the more serious difficulties, and I do not know that I can present the subject more clearly now; in fact, I do not know that I can now give you exactly the present condition of the business, but I can state that the conclusion which I reached and presented in my last annual report is one that may be relied upon as accurate, having been obtained from a very thorough and careful inventory or investigation of the pending business of the office, taken immediately upon the closing of the fiscal year, so as to exhibit to Congress the actual condition of the Pension Office at that time. By reference to page 10 of my last report

you will see that at that time there were 244,505 claims pending, and that of that number there were 184,371 invalid claims. By "invalid claims" are meant claims for pensions for soldiers themselves on account of disability. There were pending at the time I made this examination, the result of which is presented in my report, 60,134 widows' claims. By "widows' claims" are meant all claims for pensions for the widows of soldiers, dependent relatives, and minor children—all claims of that sort which depend for title upon the death of the soldier himself.

Mr. GREENLEAF. There are not many such cases, I suppose, except those arising out of the late war.

The COMMISSIONER. All these cases arise out of the late war—well, I should not say *all*, because there are 1,706 claims for disabilities resulting from former wars and 1,012 cases growing out of the war of 1812. On pages 94, 95, 96, 97 of my report the cases are classified exactly. The tabular statement on page 10 of the report is simply a summary of the more extended classification, so as to present it more compactly and clearly.

The CHAIRMAN. Let me ask you at this point whether new claims for pensions are filed as rapidly as pending claims are settled? In other words, is the number of claims for pensions increasing or diminishing?

The COMMISSIONER. I think it is slightly diminishing. For instance, I have in my hand my monthly report, ending January 31, 1883. From that report it appears that the total number of original claims filed during that month was 3,081, while the number of original claims settled was 3,854.

The CHAIRMAN. I deem this point very important, because we know that there are over 2,000,000 names on our muster-rolls, and if we have reached a point where the number of new applications we get in is less than the number of pending claims settled each month, that is certainly a very important fact to bring out, because it indicates that we have got near the top.

The COMMISSIONER. Yes; that is, of course, an important point; but let me go on. In the month of December, 1883, there were 3,026 original claims filed, while we settled 4,568 original claims. Comparing these figures with last year, same month, it will be seen that the settlements are increasing, while the number of original applications are decreasing. There are thousands of soldiers with pensionable, palpable, and proveable disabilities who from motives of patriotism or pride have never applied for pension, as is shown by the files of our office; and there are doubtless a great many pensionable relatives of deceased soldiers who have not yet applied for pensions. These are legitimate sources from which to expect future applications, and, in my judgment, the per cent. of those who have purposely refrained from applying from the high motives alluded to is greater than that of those who have neglected to apply through ignorance of their rights.

The CHAIRMAN. What would be the probable result if the limitation on back pensions should be removed?

The COMMISSIONER. Do you mean so far as stimulating new applications is concerned?

The CHAIRMAN. So far as would affect new applications.

The COMMISSIONER. I should say that it would bring about an increase of 50 per cent. in the applications for a year afterward; because when one or two thousand dollars of pension money goes into a community, it always brings an access of applications.

The CHAIRMAN. Do you know about what the increase was under the arrears act?

The COMMISSIONER. Yes, sir. You will find in my report an exact statement of that. If you look at the table on page 86 of my report, you will see a statement of the number of claims filed each year, and when you strike the years 1879 and 1880, you will see a marked increase. In 1878, before the passage of the arrears act, there were 44,587 claims filed; in the previous year, 1877, there were only 22,715; but in the year succeeding the passage of the arrears act, 1879, there were 57,118 claims filed, and in 1880, when the limit expired, there were 141,466. Then if you will notice the three succeeding years, 1881, 1882, and 1883, and compare one with the other, you will see that there has been a gradual increase, and that, I think, above the average of, say, 25,000 claims filed each year previous to that when no arrears were involved. Now, I think that the excess of those three years beyond the years preceding is attributable to the fact of the arrears having been paid out and having gone into different communities, thus stimulating others to make application.

The CHAIRMAN. And perhaps in anticipation of the possible repeal of the limitation?

The COMMISSIONER. Yes, sir.

The CHAIRMAN. Would you anticipate, in case of the repeal of that limitation, any such increase as took place in 1880?

The COMMISSIONER. Not unless you fixed a new limit. If you should fix a new limit the claims would undoubtedly come in in about that way.

Now I was going to say, on the other side, that of the cases that have been filed since the arrears limit was erected, I think we have declined, and shall be compelled to decline, to allow fully 50 per cent.; and as to the remaining 50 per cent. that we have allowed, or shall probably allow (cases filed since the 1st of July, 1880), in the

greater portion of them, where we find any merit at all, we find a great deal of merit, and there would be no reason why, considering those cases equitably, the pensions should not go back with those whose pensions were allowed before that time. It is quite a notable fact in the pension business, and it is true, that the proportion of cases of men who are justly entitled to pensions, but who have hitherto refrained from applying for them, is very much larger than any one would suppose from casual observation or information, and is really much larger than the proportion of those who ask for pensions without being entitled to them. There has been, on the part of the American soldier, a great deal of pride in this matter, and those who were able to maintain themselves without pensions have in many cases refrained from applying, even where they knew that they would be entitled to pension. I remember several notable instances of that kind. I remember one case in particular, the case of a man whose record showed that he had received five distinct wounds, each one a disabling wound, and because one of the wounds was accidental, and we asked him for some proof about it, he said he would not ask any one to make an affidavit in his case; that he would rather let the whole case go by default than call it up in that way; but, of course, we would not allow that.

The CHAIRMAN. I was going to ask you whether there have not been cases of the loss of a limb in battle where the man was clearly entitled, upon the record, to a pension; but where he has not applied for it, and I would like to have your judgment as to whether in such cases equity does not require that the pension should go back to the date of disability.

The COMMISSIONER. There are a great many such cases of very serious disability, but I do not recollect any case of the loss of a limb.

The CHAIRMAN. Well, severe disability.

The COMMISSIONER. Yes; there are cases of severe disability; but, as I have said, I have no recollection of any such case where there was the loss of a limb.

The CHAIRMAN. And you think that in such a case equity would give a man a pension from the date of the disability?

The COMMISSIONER. I should think so. I should think that such a man would certainly be entitled to a pension from the date of the disability, in comparison with another man who has had some slight disability which you would have to search for with a microscope, yet who managed to get his case in on the evening of the 30th of June, 1880.

The CHAIRMAN. Please proceed with your statement, referring especially to the difficulties.

The COMMISSIONER. Well, I don't see that I can make any clearer or more exhaustive exhibit of the condition of the business of the Pension Office than I have made in my annual report, and therefore I refer you to that report for a very full statement of the matter.

The CHAIRMAN. That shows the condition of the business of the office on the first of July.

The COMMISSIONER. I did not quite finish about that table, which I might perhaps make a little clearer than it is in the book. We broke off from that to speak of these other matters. I find that in this mass of 244,505 claims 153,722 of the invalid claims are waiting in my office for evidence. When I say that I mean that we have examined those cases and have exhausted the records of the War Department in reference to them, that we have called upon the claimants for the necessary testimony under the rules and the law as they stand, and that up to the time this statement was made they were in default for more or less of that evidence. We could not settle those cases for the lack of the evidence that we had asked for. Of course many of the examiners are not experts; they are crude, and in order that those claims should not be withheld or delayed by reason of improper calls for evidence, I had these claims all reviewed by men who were competent and who had had sufficient experience to judge whether the claims should or should not be allowed, whether the evidence called for was essential or non-essential, and where the calls were found to be non-essential or improper they were canceled and the cases settled.

The CHAIRMAN. I hope, Mr. Commissioner, that in your explanations here to-day you will be very full upon that subject.

The COMMISSIONER. Yes, I wish to be full upon it, and that is why I am dwelling upon this point a little more than may, perhaps, seem necessary. I wish to bring it out very clearly. What I have just said about the invalid claims is true also of the widows' claims that are unsettled, of which I find 50,567; there being of both classes, in all, 204,299 claims that nothing further could be done with in the office until they had been either reported from the medical examination ordered, or the parties had furnished the evidence required, in order to carry the cases further.

The CHAIRMAN. In other words, those cases are hanging fire for lack of testimony?

The COMMISSIONER. Yes, sir; and the fault is not in the office. I labored very hard to bring the office to that condition of things, because I felt that it was due to the claimants that all cases that were pending should be settled within the year if possible, and with the exception of those that I have listed in this report on page 10,

it can be truthfully said that the business of the office is in that condition. I find 9,935 that were delayed by reason of the default of the Adjutant-General in responding to calls that we had made upon him—waiting for evidence that we had asked for from the records. Part of that evidence was required to verify the testimony of comrades who had testified for the claimants. Where the testimony of a comrade is essential to the settlement of a case we find that it is quite important to ascertain that the rolls report him present at the time in relation to which he professes to testify. Prudence dictates that precaution, and the experience of the Pension Office shows that it is necessary. Part of these 9,935 cases are calls of that character; part of them are calls for a more complete amplification of the record, for a fuller statement of the man's military history, so as to reconcile inconsistencies in the proof, or to bring out a record that the examination has shown a necessity for. Two thousand nine hundred and two cases were delayed by reason of similar calls made upon the Surgeon-General. He is the custodian of the hospital records, the records of both the field hospitals and the general hospitals, and also of the prescription books; and oftentimes in examining a case where the Surgeon-General has already furnished the record of the hospitals in which the man alleges that he was treated, we find that the record is either inconsistent with the allegations of the claimant, or else that he was treated by the regimental surgeon and not in the hospital; so that he has no hospital record, but has one made by the regimental surgeon, and that record is quite essential. So we often refer these cases a second time to the Surgeon-General to examine the prescription books and see if the man's assertions can be corroborated in that way, for oftentimes that is the only testimony that will corroborate his statements. The surgeon who treated him may be dead, and the man's comrades may have no knowledge of the facts, and in such cases of course the prescription books will furnish the only corroborative evidence. This accounts for 2,902 of these cases.

The next point is that 3,846 of these claims were delayed by reason of correspondence originated by the Pension Office. That is, an examiner in investigating a case comes to the testimony of witnesses who say that they speak from a knowledge of the facts, and then go on to give general conclusions, without stating (especially with regard to disease) the causes or grounds of what they testify to. This applies principally to cases where the disability arises from disease, and where these general statements make closer inquiry necessary, because, instead of stating facts, the witnesses merely state conclusions, although they claim to speak from personal knowledge. With reference to such cases, there is an order of the office which I will read. Order No. 94 is to this effect:

"When in the absence of a record of the disability claimed, title to pension depends solely upon parol evidence, the credibility of important witnesses should be ascertained, and, if necessary, correspondence had with them direct, to develop personal knowledge of the facts testified to. Such correspondence should be frank and candid, and invite the fullest particulars from the witnesses."

Under that order we have considerable correspondence, and a claim often depends upon the result of such correspondence, and there were 3,846 cases depending upon and waiting for the result of this kind of correspondence.

Now, you understand that I claim that these delays are not chargeable to the Pension Office, but are owing either to the default of the claimant or of some of the other Departments, or to the default of the witnesses in not answering our letters promptly.

I charge the Pension Office with delay in 23,523 cases; of those 14,391 were in what I call the special examination division—that is, they were cases that would be rejected upon the *ex parte* presentation of them, but which appeared to have sufficient merit to justify us in sending them out to a special examiner in the field, who goes to the claimant's home, cross-examines the material witnesses, and gives the claimant an opportunity to cross-examine such witnesses as are adverse to him, or to offer any new testimony that he may have to offer in his own behalf. In other words, the special examiner endeavors to get at the whole truth of the case. There were 14,391 cases of that class.

The CHAIRMAN. Deeming that feature of the operation of your office a very important one, later in this hearing I suggest a full explanation of it.

The COMMISSIONER. Very well; I shall be happy to make the explanation as full as you desire. There are three points that I want to call attention to particularly in my talk here to-day, and that is one of them which I intend to amplify considerably. I found that of the 23,523 cases to which I have already referred 971 were then before the board of review for final action, passing through in the ordinary way in the month's work and presumed to be complete. So that there were in the hands of the office examiners 8,161 cases in course of examination *ex parte*, for which the office was properly chargeable with delay, aside from the cases in the special examination division.

I thought that this presentation justified me in claiming for the office that we were practically up with our current business. I could say on the first of July last that there was not a case in the office that we *could* reach for action within the limits of the year that was not settled, either adversely or favorably, and that left the remain-

der of the business, the 244,505 claims, with the delay chargeable, as I have already stated and explained.

That brings me to another point to which I wish to call your attention, namely, that those 184,371 pending invalid claims, both involving arrears and without arrears, are very largely the most difficult class to settle. They are what may be said to be the residuum of the preceding twenty years' work in the office, and they consist largely of disease cases. It struck me that we could get a better conception of what was before us in our work if I could know how many of those cases were of the obscure disease class, which, of course, you can readily understand are much harder to get competent and sufficient proof in, than cases of palpable injury or disability.

The CHAIRMAN. But often, I suppose, quite as severe and deserving.

The COMMISSIONER. Often quite as severe and the claimant quite as much entitled to a generous pension. Now, I had all these cases carefully listed, and this little table which I have presented in my report shows that of the 184,371 pending invalid claims (which were delayed for various reasons, as I have explained) 14,731 only were for wounds. I ask you to notice these figures. Only 14,731 of these cases were for wounds and 22,707 were for injuries. By "injuries" I mean injuries that cannot be classed as wounds. For instance, an injury often causes hernia, or varicocele, or an internal tumor, or something of that kind. These are obscure disabilities, and that is the reason they are not listed as wounds. Many of them are accidental in their origin; 6,851 of these cases were cases of hernia. You all know what I mean by that. Such cases are very difficult to prove, and I think that perhaps the physicians on the committee will bear me out in the statement that hernia is a thing as to which it is almost impossible to prove just when and how it originates. If I understand the matter correctly, hernia is more likely to be of congenital than of traumatic origin. Is that not so, doctor? [Addressing Mr. York.]

Mr. YORK. Yes; that is correct.

The COMMISSIONER. I understand that the hernial sack is formed sometimes in persons where the rupture never occurs; that it sometimes forms on the inner wall of the abdomen, and when injury or internal strain is brought to bear upon the three muscles which cross in the groin, the so-called rupture is likely to develop at the little triangular crossing of these muscles, the hernial ring, I believe they call it?

Mr. YORK. Yes.

The COMMISSIONER. Now, then, you can all see that a man congenitally disposed to hernia may go along for a series of years without receiving any strain or injury, and then something may occur which will cause a rupture; or it may be that the rupture will occur from a debilitated condition of the system. For these reasons and others it is a very difficult thing to prove when and how hernia really originates. Added to this there is another difficulty. Most men are delicate about making any exhibition of such an injury. They do not like to acknowledge it themselves. So they suffer with it a long time before seeking medical advice and are very apt to say nothing to their comrades about it. All these considerations make hernia an injury the origin of which is very difficult to be proved.

Now I come to "combined disabilities"—that is, disease, injury, and hernia. Of cases of this kind involving a combination of these three elements, or of two out of the three, there were 22,015. None of these are classed with "wounds." "Combined disabilities" means either disease, injury, and hernia, or disease and injury, or disease and hernia—a combination of all three of these elements, or at least of two of them. One hundred and eighteen thousand and sixty-nine out of the 184,371 are cases of obscure disease. That accounts very largely for the fact that proof in these cases is so difficult to obtain, and for the fact that there are altogether 204,299 cases in which the claimants are in default with their proof. The mind of an examiner is very often at fault in coming to a judgment on that class of cases. The testimony in such cases is necessarily general and obscure. It lacks that specificness which a man, who has to decide a judicial question, likes to have in the testimony; and therefore it is not strange that there is a large number of cases of that class waiting.

Mr. GREENLEAF. While we are on that point, please state whether there should not be some modification of existing law touching the manner of proof in such cases.

The COMMISSIONER. Yes; I think so. I will come to that shortly.

Mr. GREENLEAF. For instance, I have had one or two cases rejected because of the lack of the testimony of a surgeon who had been dead for years.

The COMMISSIONER. Such cases occur.

The CHAIRMAN. This question of the evidence to be required in pension cases is one which I think the Commissioner feels to be very important—one of the most important in this whole pension business, and I suggest a full explanation of the difficulties.

The COMMISSIONER. It seems to me that we have come to a point in the consideration of this pension business that calls for radical measures on that subject, and I want to speak of that more fully hereafter. I hinted a moment ago at the fact that

these pending invalid cases, of which I have been speaking, might be properly regarded as the residuum of twenty years' business of the Pension Office. You can readily understand that if ten claims were filed to-day, of persons entitled to arrears, and eight of those claims were for wounds received in action, which resulted in palpable disability, the office would order those eight claimants before the medical board for examination; they would all come back promptly with certificates showing the structural changes that had taken place, giving us a picture of the condition of each man. Then we should call upon the Adjutant-General for the records, and we should find that in those eight cases the wounds were listed; that the men had been good soldiers up to a certain time, when they received these wounds and were disabled.

The CHAIRMAN. Would eight out of ten be cases of that character?

The COMMISSIONER. I am merely stating a hypothetical case, without undertaking to give the exact proportion of such cases. You can readily see, however, that in the case I have supposed these eight cases would pass rapidly through the office. On the other hand, the remaining two cases in which pensions might be claimed on account of disease, rheumatism or diarrhea, for example, would present much greater difficulty. The men would claim to have contracted the disease in the service at a certain time, and yet when we get the record from the Adjutant-General we should find, probably, that those men were reported present and ready for duty at a time when they claimed that these diseases came on, and perhaps for a year or eighteen months afterwards, up to the time when they were discharged, thus raising a very strong presumption that they were present for duty right through, and presumptively rebutting the allegation that they were disabled at any time during their period of service. You see that the mind at once calls a halt on those two cases for disability due to disease; while on the other hand, the examiner very easily decides that pension should be granted to the eight men asking it on account of wounds. That is the situation in many of those cases. Therefore, in all these past years when claimants came in claiming pensions for palpable disabilities which were matters of record, and which were so easily established that they presented no difficulties, those cases were settled, and they floated off, leaving on the files of the Pension Office this very class of cases which I have been illustrating, cases in which men have adverse records, or where the proof is insufficient, or where it is very difficult or impossible for them to get the necessary proof. I do not know that I can make this point clearer by any longer statement with regard to it.

I would like now to say something of cases which seem to be delayed by reason of special examinations. In the first place, I will read the basis of my organization of the special examination division. I have now in the neighborhood of 240 men, clerks of the Pension Office, detailed to go into the field to visit claimants at their homes, take the testimony that they offer, and cross-examine the witnesses in their presence, and no such examination is made without the presence of the claimant, or his waiver of the right to be present, or his request to have the evidence taken without his being present. In all such cases the claimant is advised of the testimony that is obtained before it is sent back to the office, in order that he may still avail himself of the right to cross-examine the witnesses if he desires; and his own statement is taken in every case, that the examination has been satisfactory to him. I hold in my hand a copy of our latest instructions to the special examiners, upon which I must be judged as to the character of that service. When I took the office in 1881, I found in vogue a system which did violence to my sense of justice. It was a system under which, if a suspicion were cast upon a claim by any means, the office, without notice to the claimant and without his knowledge, might send a secret agent into the community where the claimant lived to take testimony adverse to his claim, without seeking any testimony in its favor or giving the claimant any opportunity to rebut the adverse testimony, and the first notice he had of any such investigation was that his name was dropped from the pension roll, or his claim rejected. That system seemed to me to be utterly contrary to the genius of American institutions; and I found in the report of your predecessor on this committee, Mr. Chairman, a paragraph which exactly expressed my idea of the matter, and which therefore I made a part of my preface, and which is as follows:

"We deprecate the necessity of investigations of a secret nature, whereby the claimant may be deprived of a title to a pension, and we recommend the practice, so far as it is possible and consistent with the interests of the Government, of giving notice of an investigation involving the rights of the soldier, and an opportunity of meeting witnesses who testify against him face to face, and of producing witnesses in rebuttal."

That expresses the spirit of the present system. That is the foundation stone on which it is built, and a very careful inspection of all the paragraphs of these instructions (which perhaps if you are going to deal with the question will repay perusal) will bear me out in the statement that there is nothing in them inconsistent with the paragraph that I have just read. Of course there must be an exceptional course of procedure in cases where it is apparent that there is an attempt to perpetrate fraud.

Where we find a man asking a pension for service which the records of the Adjutant-General's Office show was not rendered, and where witnesses are testifying to that service, or to alleged facts which the record flatly contradicts, thereby involving a criminal matter, the rules of course must be different. The very essence of a criminal investigation is that it shall not be made in such a way as to emasculate the criminal prosecution when it comes about; hence our investigations in such cases must be conducted with caution. The only exceptions I have made to these instructions are cases of that character, and they are very carefully guarded by the instructions.

Mr. GREENLEAF. I should suppose that delays would necessarily occur in getting testimony in these pension cases, from the fact that the claimants are so widely scattered, and because of the very wide area which the examiners must necessarily cover.

The COMMISSIONER. Yes, sir; I tried to organize and then I reorganized. In the first place I sent out my men to work under the immediate supervision of the office, but I found that that plan did not work well, that it caused too much friction, that too much force was spent in the transmission of business from the man in the remote district to the office and then back again. I found that it would simplify matters very much to put an expert examiner, as supervisor, in a convenient locality, and set a number of men to work in the field under him, with instructions to report directly to him. You must understand, of course, that in getting up this force I often find that I have made a total failure in the selection of my men. A man appears to have the necessary qualifications, and he really has some of them, but when you get him at work in the field, you find that he utterly lacks tact, good judgment in dealing with men, modesty, or some other essential qualification, and hence his detail is canceled and another man sent to take his place.

The CHAIRMAN. I wish you would explain briefly that part of your present system, because I think it is one of the most important features of the organization of the Pension Office.

The COMMISSIONER. I think it is, if we could only have more of it.

The CHAIRMAN. Right there let me ask you whether you do not find many cases of disability where the claimant is physically and financially unable to procure the necessary evidence—cases even where the man's mind and memory are so affected as to disable him from procuring evidence or presenting his claim properly?

The COMMISSIONER. Oh, yes; there are such cases.

The CHAIRMAN. And in such cases the claimant is helpless unless the Government itself furnishes the evidence?

The COMMISSIONER. Yes, that is frequently the case, and also there are cases where the *ex parte* presentation of the claimant's case has been entirely prejudicial to him, but where we find that by going to his home and drawing out the testimony under cross-examination, a state of facts is shown to exist which clears up the doubts, gives those who are interested in behalf of the claimant an opportunity to be heard, and supports his claim.

The CHAIRMAN. Is there any limitation under the law to your operations by special examiners?

The COMMISSIONER. Do you mean as to the number that I may make?

The CHAIRMAN. Yes.

The COMMISSIONER. Only the limitation of the appropriation. In guessing as to how much the probable expense would be, we found that our estimates the first year were too large, for of course we have been gradually learning this business ourselves and learning how to manage it economically. At first it was more expensive than it is now, but still our estimates the first year were too large; we had more money than we needed; I could not get the men educated fast enough to use it to advantage; but this year I shall have to draw in perhaps fifty of my examiners in order to keep within the appropriation.

Mr. WHITING. When you send a special examiner to report on a case, and he makes his report, is that case made "special" in the office here, does it take precedence of other cases, or does it go along in the regular course?

The COMMISSIONER. It does not take precedence; it goes through the reviewer's hands in the order in which the reports are received from the field.

Mr. WHITING. How is it in case the man is sick and likely liable to die?

The COMMISSIONER. Oh, such a case as that would have preference, and when the report shows such a case we give it every possible expedition. That is also our course where the medical examination shows a man to be in that condition. Such cases are taken up and given all possible expedition. You can see at once that, for many reasons, it would be an unsafe practice to say to an examiner, "You go out into the field and examine this proof and admit or reject the claim." If I had men of a more than ordinary ability and judiciousness, together with cast-iron honesty always and knew that I could rely upon the judicial fairness and the unbiased judgment of every man that I might detail for such duty I could do that; but of course that is impossible, and I think it would be very imprudent to leave so much power in the hands of the man who makes the examination. His duty and this whole proceeding should be more

analagous to that of the master commissioner of a circuit court of the United States who sends out such an officer of court to take the testimony, gather it, arrange it in compact order, and bring it to the court, so that the court may finally pass upon it.

The CHAIRMAN. In that way all these reports are subject to review in the Pension Office in Washington?

The COMMISSIONER. Yes, sir; one of the first things that I did when I came into office was to separate the man who had the final action from the man who had the primary action in a case. I thought that was wise, for this reason, that in a room where there were forty or fifty, or one hundred examiners, with one man sitting to review all their work, the examiners would very soon come to understand his bent of mind, and if they were desirous, for the sake of making a record for themselves, they could adapt each case to his peculiar views and thus secure its passage, when perhaps it really ought not to pass; or, on the other hand, they might secure the rejection of a case when really it ought not to be rejected. I took the reviewers away from the examiners entirely and put them in a board by themselves, and then arranged that all cases as they were examined primarily and completed (I think that those of you gentlemen who have been in office understand how cases are dealt with; if not, I will explain that further on) by the examiner shall be sent to a room *en masse* and then be sent out to the reviewers promiscuously; so that no examiner can tell in advance what reviewer is going to pass upon his action, or what the result will be. In that way I bring about a uniformity of action and bring the work up to a certain general standard. Those reviewers are selected as the most expert men in the office and are detailed for the purpose of reviewing and considering the cases that are fit for admission, in the judgment of the examiners. No case that is submitted for rejection is sent to the board of review, but is passed upon by the chief or one of the assistant chiefs of the proper division, because I want them to get out the work as rapidly as possible. That is an expensive force and ought to be, for they are restricted to the final favorable judgment and must be the very best minds at my disposal.

The CHAIRMAN. How many special examiners have you?

The COMMISSIONER. I think there are 240 in all in the field. The number varies at different times. Sometimes a man gets sick, and I have to cancel his detail, or he proves to be incompetent and must be recalled, so that the number fluctuates.

Mr. CONNOLLY. You say you will have to cut down the force?

The COMMISSIONER. I shall have to do so from now until the 1st of July unless the Committee on Appropriations shall see fit to give me some more money.

The CHAIRMAN. That is, the total appropriation for pensions is so divided that you can spend only a certain proportion of it for this purpose.

The COMMISSIONER. Yes, sir.

The CHAIRMAN. Some time in the course of your statement I should be glad to have you explain the course of a claim from the time it is received in the office until final action, detailing the various steps through which it passes from beginning to end.

The COMMISSIONER. I think I may as well take up that now as at any time, unless you want something further about the delays.

The CHAIRMAN. If there is anything further on the question of delays in special examinations, we shall be glad to hear it.

The COMMISSIONER. Yes, I would like to say something more about that. I find it almost impossible to gain on that number. You will see by my monthly report that on the 1st of July there were 14,000 cases waiting in that division, and now there are 17,400. I got 1,200 and odd cases in December from my special examiners and 1,349 in January, and yet there are more cases being referred to those special examiners than are returned, and for the reasons I have already stated.

The CHAIRMAN. Would it expedite claims and better secure the ends of justice to have the appropriation and force for that service increased? Is that your opinion?

The COMMISSIONER. I shall have to have it increased because I cannot spare many more men from the office who are fit for that duty. When I detail more than a certain number for that duty I fall behind in the examination of evidence in cases that can be settled on an *ex parte* presentation. I have caught up on that work, and I do not wish to get behind again. There is a bill pending which was introduced by Mr. Peters of Kansas and referred to the Committee on Invalid Pensions which will be sufficient for that purpose. It provides that there may be 150 special examiners appointed by the Secretary of the Interior, who shall be required to be attorneys at law and sufficiently versed in the laws of evidence to be able to take the testimony properly. The bill requires that they shall have that qualification, and that it shall be certified by the judge of the court of whose bar they are members.

The CHAIRMAN. And you would have those appointed from outside?

The COMMISSIONER. Yes; I should never bring them here at all. I would not let a man work in his own State, because if he did work there he probably could not very well divorce himself from politics.

The CHAIRMAN. And would you let these men start in without experience?

The COMMISSIONER. I should confine them to taking testimony, and if I can get

lawyers for the service I shall not have to educate them for that. Most of the men that I have sent out were not educated in that way, and they "scatter"; they do not condense the testimony; they bring in a lot of immaterial testimony, matter which it takes time to read and to weed out. If I can have lawyers for that service and can have 150 of them for a year, I can get up with the work.

Now it might be suggested as a remedy, to cancel the detail of the men now in the field and let those cases be sent to the circuit court of the circuit in which the claimants reside, and let the testimony be taken by commissioners to be appointed by the judge, and let them certify that testimony to the office. I do not see any other way of dealing with the matter unless you leave it entirely under the control of the Pension Office and provide sufficient force.

The CHAIRMAN. Would you advise calling in the circuit court of the United States in cases of that kind?

The COMMISSIONER. I should rather send them to the circuit courts of the States.

The CHAIRMAN. But would you favor calling in the State courts to aid in that work, instead of keeping it under the direction of the Department?

The COMMISSIONER. No, sir; I do not wish to be understood as saying that I would recommend that in preference to the other plan. I should very much prefer to have the men under my own control; but if the objections to the appointment of additional men are found to be cogent enough to prevent it, why then some other remedy ought to be devised, and I merely throw out this one by way of a suggestion. The responsibility seems to be on Congress to provide some remedy adequate for the difficulty that will be effective, and put delays to an end.

Mr. CONNOLLY. Your suggestion is that it might be well to have commissioners appointed by the courts to take the testimony and certify it to the Pension Office?

The COMMISSIONER. Yes.

Mr. CONNOLLY. The court would have nothing further to do with the matter but to certify the testimony?

The COMMISSIONER. No, sir.

The CHAIRMAN. That would be only a source of delay.

The COMMISSIONER. I am afraid that it would be so. I think that 150 of the right kind of men for a year, if you could give them a good salary so as to be able to command the services of efficient men, and if the Department could have something to say in their selection—for I should not want drunkards, bummers, or men selected haphazard, but men of good clean habits who know enough about evidence to reject irrelevant matter and confine the proofs to the points in issue—I think if I could have 150 of such men for a year I could get the business up.

The CHAIRMAN. The important thing would seem to be to keep politics out of it. If you divide those examiners out between the parties, keeping politics out of the business, the plan you think would undoubtedly work well?

Mr. YORK. Any man who dabbles in politics while detailed for this particular work which is so pressing ought to be dismissed.

The COMMISSIONER. That is understood to be the rule now in the administration of the office. I should at once dismiss any man detailed as a special examiner who interferes in any way with politics, because he is expected to give his whole time, day and night, to his work on pension cases, and I regard the administration of the pension business as a sacred trust which would be polluted by the interference of politics in any shape or form in the field or office work.

Mr. CONNOLLY. If that objection is raised, probably that bill will be reported adversely.

The COMMISSIONER. It may be; I do not know, I am sure; it ought not to be raised.

Mr. CONNOLLY. I think that is something that ought to be attended to without delay.

The COMMISSIONER. Yes, sir; I think it is a matter that ought to be referred to this committee for immediate action, as I understand the function of this committee is to propose general legislation for the curing of the defects in the present pension system. When the matter was first presented to the Committee on Invalid Pensions it met with universal approval. I discussed it before the committee, and I think no voice was raised against it, but on more mature consideration, and after thinking the matter over and discussing it in my absence, that objection was raised. I said to the chairman that whatever Congress should deem a wise remedy for the difficulty I would try to administer as well as I could, but I thought the case called for some sort of remedial legislation, and that the remedy should be prompt, because these men, if they are entitled to pensions at all, ought to have them speedily. It is crucifying them to hang them up in this way. A case comes up in relation to which there are grave doubts, and in fact on the proofs as they stand without explanation we would have to reject the case; but that may be a great injustice to the man, and we do not like to reject his claim without having a fuller investigation, and very likely when properly investigated the case might turn out to be a meritorious one; but, as the business stands now, to leave

that case for special examination is simply to put it back for eighteen months or two years.

The CHAIRMAN. I have thought for a long time that it was essential in this work to get nearer to the claimant, and the only way to do that now is by these special examinations. But I take it we cannot change the general plan now.

The COMMISSIONER. No; it is too late in the history of the pension business to do that.

The CHAIRMAN. Yes, I suppose it is too late; still I cannot think myself the Pension Office system is the best that could be devised, but it is too late to change it now. But we can get nearer to the claimant in this way, and for a long time I have been of the opinion that the special-examination service ought to be enlarged, as I believe its enlargement would prove to be economy in the end and lead to speedier justice.

The COMMISSIONER. I certainly think it would.

Mr. GREENLEAF. I think I have had a dozen cases of delay—delay which was probably unavoidable for the reasons the Commissioner has stated. There have been cases where special examinations were ordered a year ago.

Mr. YORK. There is a case that I called to the attention of the Commissioner some time ago, where a widow lady has been for ten years making application for a pension, and her case has never yet been reached. The Commissioner promised to send a special examiner to look into the case, but, undoubtedly, owing to the great amount of work in the office, it has not been reached yet, and every mail brings me a letter on the subject.

Mr. CONNOLLY. Why would it not be a good idea, Mr. Commissioner, to have another bill of the kind you suggest introduced and referred to this committee?

The COMMISSIONER. Why should not this committee report a bill on the subject?

The CHAIRMAN. We can report such a bill as a substitute for any measures that are here before us, and we will consider that suggestion before we get through.

The COMMISSIONER. I think it would be wise to do so. Have you any further questions to ask in relation to this matter of special examinations?

Mr. CONNOLLY. There is one question that I wish to ask in reference to testimony in these cases. In a case where the testimony of certain officers is required, and the officers are dead or cannot be found, would not you suggest a change in the law with reference to the evidence required?

The COMMISSIONER. I will tell you a change in the law which would seem to be eminently just and which I think would be curative of all these troubles that we are contending with, and would meet directly the very difficulties that we encounter in dealing with these cases in the field. I think that if such legislation were adopted I could withdraw from the examiners two-thirds of the cases in the field; because, largely, those are cases turning upon the question of "origin" and "continuance." Those are to some extent technical expressions in the office, which may need a little explanation. "Origin" means the incurrence of the disability in the line of duty, and the circumstances which are required to bring the case within the law. "Continuance" means the existence of the disability at the time of discharge, and every year since over which we are asked to give a pension. It seems to me that a law might be proposed which would meet the average sentiment of the people and which, if it could be adopted, would, I believe, result in a short time in relieving the Pension Office of the great mass of these standing cases, and in getting the work up. I do not think I receive many letters (and I get a great many) that do not voice substantially this sentiment: "The man was a good soldier; we *know* he was a good soldier, and he is now a wreck and he ought to have a pension." Now, there is little or no logic in such a construction of the law by which we are bound, and there is great impatience among the people about this feature of the business; that is the burden of all my correspondence—a general protest against the calls that we have been compelled to make for evidence of the "origin" and of the "continuance" of the disability and of the degree to which the man has been disabled thereby each year.

Mr. CONNOLLY. What I referred to more particularly was this, that where the claimant is deserving and really entitled to a pension, and the law calls for the evidence of a certain officer, and that officer is dead, so that he is unable to testify, the law ought, it seems to me, to be so changed as to admit some other means of proving the case; don't you think so?

The COMMISSIONER. It does not need any amendment of the law for that, because in the absence of the best evidence we always take secondary evidence. But suppose that that officer in his lifetime, and in the discharge of his duty in the Army as such, had made a record which now contradicts allegations of the claimant, what would you do in such a case as that? Of course it would take cumulative evidence to overcome the record made at the time, which is of the very highest type of evidence.

Mr. CONNOLLY. What do you mean by a "record"; suppose the officer had made a memorandum—is that what you mean?

The COMMISSIONER. Yes; and suppose that was against the claimant?

Mr. CONNOLLY. I don't think it should be sufficient to determine the case against him.

The COMMISSIONER. It would be sufficient evidence for him if it were in his favor, would it not?

Mr. CONNOLLY. Do you mean according to the rules of evidence?

The COMMISSIONER. Yes.

Mr. CONNOLLY. I should think not.

The COMMISSIONER. I should think it would. Suppose the officer had made the record at the time that the man was wounded at a certain time and place, that record would certainly be the highest kind of evidence, and we should not ask for anything else.

Mr. CONNOLLY. But suppose the officer had made his record *against* the man that might be capable of explanation by spite or ill will on the part of the officer?

The COMMISSIONER. But you must take into account that every officer is bound to do his duty, and the presumption is that he has done his duty.

The CHAIRMAN. But that presumption and that evidence may be contradicted, may it not?

The COMMISSIONER. Certainly; but only by cumulative evidence to the contrary.

Mr. CONNOLLY. I had a case, before I came here, of an officer living in Brooklyn who had knowledge of the facts called for by the Department, but who absolutely refused to make the required statement.

The COMMISSIONER. That man we can reach under the law as it stands, because I can cite him before a United States court and compel him to testify.

Mr. CONNOLLY. That is a roundabout proceeding.

The COMMISSIONER. Well, it is the best we can do, and that is the best evidence we can get.

Mr. CONNOLLY. Where the officer whose evidence is required is dead, what evidence do you receive in lieu of it?

The COMMISSIONER. We take the testimony of any person who has knowledge. The testimony of the first sergeant is considered as good as that of a commissioned officer, for the reason that it was just as much his duty to know the condition of the men and to make the record. The only reason that we require the testimony of an officer is that he is presumed to have had knowledge of the condition of the men under his command. But if the officer or the sergeant cannot be found, and a comrade who has knowledge can be found, he is just as good a witness, if the foundation be properly laid.

Mr. GREENLEAF. How about a case where the testimony of the surgeon is required; will secondary evidence apply in such a case?

The COMMISSIONER. No; the technical rule of evidence applies, that the surgeon can speak from technical knowledge, while lay testimony cannot speak authoritatively to medical conclusions, but only to symptoms.

Mr. GREENLEAF. I had a case of this kind, which you may remember something about. The claim was rejected for lack of the testimony of the surgeon, and notice was given to the office that he had been dead two years; but nevertheless word came back that the case was still rejected for lack of the testimony of that surgeon.

The COMMISSIONER. Well, that must have been a case where the testimony of a layman would not be competent.

The CHAIRMAN. As the question of evidence, the methods of taking testimony and getting at the facts, the kind of evidence to be received, and the necessity, under existing law, of establishing the fact that the disability did occur in service in the line of duty, and did not exist prior to enlistment, seem to be where much of the difficulty is located—where, so to speak, the "disease" in this case lies—I would suggest that, before entering more fully into that question (for I would like to have the Commissioner's views upon it in full), it would be better that the Commissioner should give us the history of a case, tracing its course from the beginning to the end, explaining to us how a case comes into the office, how the evidence is filed, and the whole course of the case in its passage through the office. If he will do that, then, when the question of evidence comes up, we shall see how it applies to each individual case.

The COMMISSIONER. I did state what is the great objection to requiring proof of origin and continuance that comes up from people everywhere. It is that, after a lapse of twenty years, we ask something that is almost impossible, from its very nature, to obtain. Another general protest from the people is against our asking a widow, whose husband was a pensioner, to prove that her husband died by reason of some disease contracted in the service, or by the actual disease or injury for which he was pensioned. For instance, take a man who had lost a limb and who lived to enjoy his pension for quite a number of years—say twenty years after the war—and then died of heart disease or apoplexy, as those cases generally do. The medical authorities will not admit the pathological connection unless there is some specific disease, and we have to reject. We require the claimant to prove a pathological connection between

the death and the disease, and if the man dies of pneumonia, for example, we reject the claim. Now, there is a general protest against that feature of the law. I think I may safely say that the people generally desire that the widow of such a pensioner shall receive a continuation of his pension, and yet we have to reject such cases for want of the proof required by the law as it stands.

The CHAIRMAN. The present law evidently requires modification upon that point. The committee have two or three bills before them covering that question.

The COMMISSIONER. So I understand. Now, it occurs to me that a radical cure for that difficulty and a response to what I believe to be a wide spread sentiment among the people, would be the passage of a law which would provide that when a soldier has given six months' honest field service to his country and bears an honorable discharge from the service and is now disabled by physical disability for the performance of manual labor and from earning his subsistence in that way, his disease or disability being such as can be shown not to have originated in his own vice or excess, a pension should be granted to him. If you pass such a law as that, the proof that will be required will be simply the record, which we have always at our disposal; the examination of the man made by a board of surgeons, which is at our disposal, and will cost the claimant nothing except a visit to the board; and where the injury is not a palpable one, you might, perhaps, require some further evidence to be brought before the board to enable them to certify that the man's disability is not due to his own vice. That would be about all the evidence that would be required in such cases. Now, I say that a measure of that kind would secure pensions to the most deserving claimants, and would satisfy the public mind on this subject. I should deem it unwise, however, that a pension obtained in this way should carry arrears. The pension should be a pension *in futuro*.

The CHAIRMAN. That is, you would say that the Government having accepted the man, and having continued him in active service for a period of six months, the Government should then be estopped from denying his claim on the ground that the disability for which he claims pension, and which actually exists, originated before he was enlisted?

The COMMISSIONER. Yes, sir.

The CHAIRMAN. But there would be some exceptions to that rule, would there not? For instance, there are disabilities which, if they had been incurred in the service, would entitle the claimants to a pension. Take the loss of an eye, for instance—there are some men who had incurred that loss before they entered the service.

Mr. GREENLEAF. I have never heard of any such case. You have known of them?

The CHAIRMAN. Yes; I have known of such cases.

The COMMISSIONER. Such a case as that would be covered by the provisions of the bill itself, because those men were generally discharged inside of three months; whereas no man who had not seen six months' field service would get the benefit of the law that I suggest.

The CHAIRMAN. But there were a good many who continued to serve all through the war with certain disabilities—such as the loss of a finger, for instance, or the left eye?

The COMMISIONER. Yes; I have in mind a notable case of that kind, and all such would be covered by the bill which I suggest.

The CHAIRMAN. But, in a case where a man continued in the service all through the war with disabilities, which, if they had been incurred in the service, would have entitled him to a pension, how would that be provided for?

The COMMISSIONER. Well, the bill would have to be guarded. I simply refer here to the muster-roll of three regiments, in which there are a very large number of men discharged inside of three months because they were near-sighted, or suffered from other disabilities which would prevent them from being efficient soldiers, although they had been enlisted in fraud of the regulations, in order to make up the number necessary to get the commissions of the officers. In that way those men got past the scrutinizing eyes of the officers, and got into the service, and we find a large number of those men applying for pensions, although they were discharged within three months.

The CHAIRMAN. There might be a few, but do you think that many such would be included if the term of field service was extended to six months?

The COMMISSIONER. No, sir.

The CHAIRMAN. Six months' service, you think, would cover such a period as would generally indicate whether the man was disabled before he entered the service; but still there might be cases where the disabilities had originated before he entered the service.

The COMMISSIONER. I would not repeal the existing law, but I would make this proposed law applicable to the future, and I would give a man who had a claim pending who had some doubt as to being able to obtain the necessary proofs under the existing law the right to elect whether he would take under the old law or under the new one.

The CHAIRMAN. Would you not give a claimant whose claim is now pending the benefit of that if it carried arrears with it?

The COMMISSIONER. I don't think I should; I think I would let the man elect which law he would claim under; I would put him on the same plane with all others; if he cannot establish his case so as to take under the existing law, let him take under the other law a pension *in futuro*. These are crude ideas that I throw out here, but I have looked at the matter pretty carefully and at the other remedies that have been suggested, and I do not see how any of them are going to remedy the difficulties that we now have. I think I should pass such a law as I have described and make it apply also to widows.

The CHAIRMAN. Would you recommend such an amendment in the law as to permit the widow of a pensioner to continue to draw the pension that her husband was drawing at the time of his death without requiring proof that his death occurred in consequence of that particular disability?

The COMMISSIONER. Yes, sir.

Mr. GREENLEAF. Would you have the same law applied to a dependent mother?

The COMMISSIONER. I am not prepared to answer that. The same reason would hardly apply generally in such cases. The origin and the reason of granting a pension to a dependent mother are of quite a different character from those in the case of a widow.

The CHAIRMAN. The husband is dead and the widow draws the pension as long as she is entitled to it. The cases are not analogous.

Mr. GREENLEAF. No; that is so.

The COMMISSIONER. The dependent mother and the widow get their title to a pension in entirely different ways.

Mr. CONNOLLY. I want to call your attention, Mr. Commissioner, to a bill that has been referred to this committee, which provides that "there shall be granted to the widow of each deceased soldier of the Union Army from the date of his decease, whether he died in the service or since discharge therefrom, a pension of $10 a month, to be paid from the date of death during the time that she remains unmarried: provided, that no widow of any soldier shall receive more than $10 a month, and provided that any money paid her heretofore exceeding the amount thereby allowed shall be deducted from her pension under this act." What do you think of that bill?

The COMMISSIONER. That would amount to a practical reduction of nearly all widows' pensions, as it would operate practically to terminate the pensions of most widows, especially those who have minor children.

Mr. CONNOLLY. In what way?

The COMMISSIONER. Well, under the act of June 25, 1866, widows receive $8 a month as the pension of the soldier, and $2 a month for each child until it arrives at the age of 16 years. Now, that pension having been drawn, if you were to nominally increase the widows' pension to $10 a month, but were at the same time to deduct all that has been heretofore paid to such widows, you would practically stop their pensions for all time to come.

Mr. CONNOLLY. Yes, that is clearly so, although the bill was intended for the benefit of widows.

The COMMISSIONER. Undoubtedly; but the drawer of the bill had not in mind the fact that many widows were drawing pensions as widows of officers, or were drawing pensions for minor children under sixteen years of age before the father died.

The CHAIRMAN. There are no longer any cases where they are drawing pensions for minor children, I suppose?

The COMMISSIONER. Oh, yes. The period of the minority of the child is fixed not with reference to the termination of the war, but by the date of the death of the soldier.

The CHAIRMAN. Now please trace for us the history of a pension claim from the time it enters the office until it is disposed of.

The COMMISSIONER. I don't know that I can do that any better than I have done it in this book of instructions, from which I will read:

On the filing of a claim its receipt will be acknowledged; it will be stamped, jacketed, the jacket correctly briefed in the mail division, and sent the next day to the record division, where it will be immediately numbered, and forwarded the same day, or as soon as possible, to the adjudicating division to which it belongs; or, if there is an attorney appointed, to the division of special examination, where the standing of the attorney will be properly indorsed thereon, and then sent on the same day to the adjudicating division.

That is, all claims received to-day are jacketed and then forwarded up to the record division where they give the case a number and acknowledge its receipt to the claimant and the attorney, and in sending that receipt to claimants we inclose a pamphlet containing these instructions, so that the claimant has all the instructions before him, showing him what classes of proof are required and what blanks are necessary.

The CHAIRMAN. But you do not furnish blanks?

The COMMISSIONER. No, sir; except on application. Then, as soon as all the

record is made, the case goes to the adjudicating division, unless there is an attorney named in the application or a power of attorney created in the body of the application. In that case it goes to our attorney's desk. We have a clerk who keeps the standing of pension attorneys and can tell by reference to his record whether they are disbarred or disqualified in any way, and the name of the attorney is written across the back to show that he is recognized as attorney, and that the power of substitution is not recognized.

The CHAIRMAN. About what number of attorneys are recognized as qualified to practice before the Pension Bureau?

The COMMISSIONER. I do not know. We have files of attorneys and agents that would almost cover the floor of this room. When the case reaches the stage that I have described, then it goes to the adjudicating division. I have the office divided into five adjudicating divisions. They have a chief and two assistants and a certain number of examiners in each division, and a certain number of mere clerks. For instance, in the eastern division, which comprises the New England States, New York, New Jersey, and Delaware, there are 184 clerks in all; the force consisting of one chief, with two assistants; and these clerks, of whom 157 are examiners and 28 are mere clerks. I do not know whether you care to go into details of this kind. If you do, I can give them to you as we go along. Then in the middle division, which consists of the States of Pennsylvania, Ohio, and Michigan, and deals with all the claims from those States, there are 195 clerks, of whom 144 are examiners and 52 are mere clerks. In the western division, which comprises all of the Western States except Missouri, commencing with Indiana and including Illinois and Wisconsin, and all of the States in the West and Northwest, with the single exception I have mentioned, there are 188 clerks, of whom 156 are examiners and 34 mere clerks. In the southern division, which settles the claims from all States south of the Ohio River and of the Potomac, and also from Maryland and south and west of Missouri, and including that State, there are 145 clerks, of whom 111 are examiners and 28 are mere clerks.

The CHAIRMAN. About what proportion of these examiners have had legal training?

The COMMISSIONER. Not to exceed 20 per cent. of them. They are taken from all walks of life, pretty much.

The CHAIRMAN. That is one reason why you now recommend the appointment of 150 special examiners who shall be lawyers?

The COMMISSIONER. Yes, sir; I want those in the field because their function would be simply to take evidence and "boil it down." Then there is the old war division, which settle all the *ante bellum* claims, Regular Army and Navy claims, and bounty land cases. In that division there are 58 clerks, of whom 33 are examiners and 25 mere clerks. There is a great amount of clerical labor in that division. On the board of review, which consists of 59 employés, 44 are the very best men that I can get for such service. I put the cream of the office there.

The CHAIRMAN. Please explain in detail the work of the board of review.

The COMMISSIONER. Had I not better do that as I proceed with my statement of the course of a claim in passing through the office? I have now described pretty much all there is of the adjudicating division. Now, when a claim comes in from any of these States it is referred to the proper division and goes upon the files of that division in the regular way. In the adjudicating division, when it once lodges there, the claim will be promptly examined as to the proper execution of the declaration and the sufficiency of the allegations. That is to say, an examiner takes it up before it is put into the files and examines the declarations as to whether they are sufficient, just as in court a declaration is examined as to whether it is demurrable or not. If all that is alleged if proven would not entitle the claimant to a pension, then, of course, the declarations or allegations are not sufficient, and the case is sent back for an amendment of the allegations.

The CHAIRMAN. Before it goes any farther?

The COMMISSIONER. Yes, sir; I think that rule is in accordance with common sense. The reason I adopted that rule was that in many cases evidence had been called for and the cases had been "worked up," and just about the time they were going to be settled, it was discovered that the allegations or the execution were faulty, and so the settlement could not be made. Then this instruction proceeds:

"If insufficient, the claimant and attorney will be so notified, and the case will be sent to the rejected files. If sufficient, the claimant and his agent will be informed of the number, and that the claim will be settled as soon as possible. The proper calls will at once be made on the Adjutant and Surgeon Generals, and the invalid claimant will be ordered for examination."

That is for the reason that the pension must begin at the date of the filing of the application if filed since July 1, 1880.

"On receipt of reports from the Adjutant and Surgeon Generals the case will be assigned to an examiner as soon as practicable, who shall at once call, through the at-

torney, for all the evidence necessary to complete the claim, thereby notifying him that the office is ready to consider the case and the evidence thereafter filed."

That is, as soon as we get back the record from the Adjutant-General or Surgeon-General. We delay the call on the claimant until then, because until the record from the Adjutant-General's or Surgeon-General's Office comes in, we do not know what is the nature of the testimony that we shall have to call for. When that record comes in, then the call is made for the other testimony.

"The year of neglect on the part of the agent or attorney in the case to reply to the call of the office will begin from the date of this order. The examiner will briefly and plainly note on the jacket the date of such call and the character of such notice."

That is especially with reference to the standing of the agent. If he neglects the claim for a year after we have called on him for this evidence, he is held to have abandoned it, and the claimant will be corresponded with directly. If, however, he can show that he has called upon the claimant for the testimony, and that the claimant is in default to him, we hold the matter up until the claimant responds. This rule is simply a precautionary measure to hold the attorney to care and attention in the premises.

"When the evidence is complete the examiner shall brief the case, and submit it for 'admission' or 'rejection' in accordance with Order No. 62. The chief of the division will then send such adjudicated case to the board of review, and unless the case is sent back to him as improperly submitted, his connection with such claim shall then cease. If improperly submitted, the claim will be readjudicated."

That is, the case is completed and briefed, the brief setting forth all the material facts and reciting the testimony in chronological order, as to the nature of the disability, the length of time in the service, the continuance of the disability, and the present condition of the claimant. All that is clasped together, so that the reviewing officer can take it up and see at a glance what is the condition of the case.

The CHAIRMAN. Is all this that you have been describing done by the examiner?

The COMMISSIONER. Yes, sir; and on that he is required to make a rating sheet. It is a sheet just the size of the brief, and it starts out with the proposition that after carefully examining this case he is satisfied that the claim should be rejected or should be admitted for the disabilities claimed; that the man has suffered in each year in the following degree—setting forth each year, and the disease or disability upon which it appears that the claimant has been disabled, and the testimony upon which the examiner relies for that judgment.

The CHAIRMAN. And right there, is not one of the greatest difficulties in the practical operation of the office to show the continuance of these disabilities through all these years?

The COMMISSIONER. Yes, that is one of the things against which there is a continual protest. The examiner makes up the sheet and signs his name. The reviewer who goes over it afterwards puts his approval or disapproval on it. It is a formal judgment by the examiner, which is reviewed and approved or disapproved by the reviewer.

The CHAIRMAN. And that includes the report of the medical examination, I suppose?

The COMMISSIONER. Yes; it includes that. For instance, he would say that in such a year the claimant was disabled by such a disease—say heart disease—and that he relies upon the testimony of Thomas Smith and John Jones to establish the facts; so that the reviewer sees what evidence the examiner relies upon. These instructions proceed as follows:

"The board of review will, in accordance with Order No. 59, review such adjudication and return to the chief of the proper division all claims improperly submitted and such as are rejected, and properly rate, after medical review, all submitted cases, and send the same to the certificate and account division.

"The certificate and account division will make proper record, have certificate, order to inscribe, and notice to claimant and agent properly made and sent without delay.

"Should an appeal be taken from an adverse decision of this office, the law clerk, under the direction of the Commissioner, will prepare the papers for submission to the Secretary. If the decision is reversed, the case will be sent to the adjudication division for action in accordance with decision."

Order 62 is as follows:

"It is hereby ordered that in all cases submitted for review, the brief shall embody the facts, essential points, character, and weight of all evidence, including mention by name of all persons testifying, certifying or making statements, and a reference to all the papers to be examined by the reviewers, except the reports of the Adjutant-General, Surgeon-General, examining surgeons, and certificates of disability, which must be attached to the brief. All papers in a case which are not to be considered by the reviewer shall be collected together in a separate jacket. The brief shall show the date of filing of all the evidence, whether official reports, certificates, affidavits, state-

ments, or reports of the War Department as to the 'presence or absence' of affiants, which dates are to be noted in red ink immediately following the name of the person testifying."

For instance, we put down "John Smith, present, testifying from personal knowledge; credibility found to be good." All these things are stated in red ink. Then follows a synopsis of Smith's testimony.

Then, "if a report of the division of special examination accompanies a case, a reference to the same, with the date of filing, shall appear on the brief. If an admitted case is resubmitted to the board of review upon a report from the division of special examination, a new half-face shall be attached to the original brief. In all cases it shall appear whether the case is submitted for admission or rejection; if submitted for admission, there shall be entered on the brief the words 'submitted for admission'; if for rejection, the words 'submitted for rejection,' and the examiner may, if he so desire, give briefly his reasons for his actions in the premises. Whenever a case is ready for submission, the examiner shall brief and return the same to the chief of his division for submission to the board of review."

Order No. 59 is as follows: "Matters of fact, and the judgment of the office upon them, as well as the ascertainment of the character and reliability of testimony and credibility of witnesses, are questions solely for the adjudicating divisions; and the papers in the case, together with the brief, are to be transmitted to the review board for review. The sole function of the review board is to treat cases judicially, upon the papers, and after a finding upon the law and the facts, cases are then to be referred to the medical referee for his decision upon the medical questions involved, based upon such finding, and he shall then return the same to the review board, with his opinions, for its final report."

The CHAIRMAN. That is, it goes from the board of review to him?

The COMMISSIONER. Yes, sir; he settles the medical questions in the case. There is a space left for the legal reviewers, and right opposite to it one for the medical reviewers.

The CHAIRMAN. Then the certificates are made out and sent where?

The COMMISSIONER. They make a record of the certificates and inclose them in envelopes and bring them up for my signature, and after that they are sent to the Secretary for his signature, and after that they go back to the certificate division and are mailed to the pension agents.

The CHAIRMAN. Each certificate is mailed to the pension agent in the particular district to which it belongs?

The COMMISSIONER. Yes, sir.

The CHAIRMAN. And the pension agent sends them out to the persons for whom they are intended?

The COMMISSIONER. He inscribes them on his roll, and makes a careful comparison, and when he is sure that a certificate is right he forwards it, with the voucher, to the claimant.

The CHAIRMAN. When the certificates are issued the pension agent pays by warwants on the Treasury, does he not?

The COMMISSIONER. If the claimant comes in person the agent can pay by a "bearer" check, but if the check is sent by mail he pays by one which is payable to order and which is generally drawn upon one of the assistant treasurers. Now, with regard to the modes of procedure and the character of evidence required to substantiate certain classes of claims in the Pension Office, I would say that those matters have hitherto been controlled by a sort of unwritten practice growing out of the legal inferences or the natural inferences from existing laws, and the analogous requirements of the law of evidence to substantiate alleged facts in other declarations, and, as far as possible, the ordinary rules of evidence as they obtain in the courts of justice generally are applied to the consideration of pension cases, with this exception, however, that the Government is not considered as an adverse party in a proceeding for a pension, and is not to be regarded as placing itself in antagonism to the claimant, but as simply requiring from him such proof as will justify the conclusion that he is of the class and disabled to the degree of those who are intended to be benefited by the pension law. Naturally, as you can see, by years of experience and practice in the Pension Bureau a code of unwritten practice has arisen, which has been handed down from examiner to examiner by word of mouth, and when it was thought our force of examiners should be largely increased so as to in some measure keep up with the business of the office it was found absolutely impossible to give the necessary instruction in the existing practice to the new examiners by word of mouth; and the unequal abilities of the men appointed rendered it absolutely necessary that some fixed line of procedure should be formulated. To that end I had Deputy Commissioner C. B. Walker, who was well versed in the practice, and a lawyer of experience, to thoroughly acquaint himself with all branches of it and formulate it. It is now in the shape of a code. We call it "A treatise on the practice of the Pension Bureau," for want of a better name, and that code is put into the hands of each man when he

comes in, and he is instructed to familiarize himself thoroughly with the mode of procedure as there laid down, and is made to understand that cases are to be thus dealt with.

The CHAIRMAN. So that your examiners require testimony in each case to be filed in accordance with the regulations here laid down.

The COMMISSIONER. Yes; so that if I were to talk for any length of time I could not make the matter clearer than these regulations make it, because these are the rules of procedure in the office, and they are arranged in order with regard to the topics and subjects and classes of claims, so as to be convenient for ready referencee.

The CHAIRMAN. But, nevertheless, as this evidence is all necessarily *ex parte* a groundless claim or a fraudulent claim, which was sustained by evidence filling all these requirements would appear just the same on its face as though it were a true claim, and, unless inquiry was made behind the *prima facie* case, fraudulent claims of that character would sometimes go through and would usually go through, if they went through at all, more rapidly than the meritorious claims. Is not that so?

The COMMISSIONER. Yes, sir, that would be ordinarily so. However, that statement should be qualified by saying that a careful reading of the rules of procedure, as laid down in this little book, will show you how we strain and sift the evidence in such a way that testimony which seeks to establish a claim having no foundation whatever is certain to be detected at one stage or another of the case. So that I undertake to say that not one claim in a thousand is to be found in the admitted files in our office that is really fraudulent in its origin.

The CHAIRMAN. Of course, as Mr. Greenleaf has suggested, any one starting out to perpetrate a fraud of that kind knows just what to do, and will do it all systematically and thoroughly.

The COMMISSIONER. Yes, sir.

The CHAIRMAN. Still, you think there is but a small proportion of fraudulent claims of that character that get through.

The COMMISSIONER. Yes, sir; a very small proportion. It has become quite a common and flippant remark, in speaking of the pension business, that there is a tremendous amount of fraud in it, and a great many of the cases in which pensions are granted, are frauds upon the Government. That impression grows, I think, not so much out of the fact that there are really many fraudulent cases in which pensions are granted, as out of the well-known fact that so many claims filed for persion are rejected. Those claims generally come from men who have a fancied right, or who have been led to believe that they have a right to pensions by the solicitations of agents, who are often very unscrupulous in their representations.

Mr. GREENLEAF. A great many persons are induced to think that if anything has happened to them at any time since they left the Army, it is directly traceable to some cause which arose in the service.

The COMMISSIONER. Yes, and there is a feeling on the part of some of the agents that everybody that they can get to apply for a pension ought to apply. I wont say that this is true of all the pension claim-agents, because we have a great many upright honest men among them who try to state the truth, but there are also a great many such agents who do not care so much about the character of a case which they present, or about the evidence as they do about getting the ten-dollar advance fee; and hence in their circulars, and in the other methods which they adopt of soliciting business, they are reckless and deceptive in their statements, and thus a great many claims are brought in to the office that possess no merit at all. However, it is no more just to say, as a general proposition, that that class of claims are all fraudulent, than it would be to say the same of all the unsuccessful litigants who go in to court to enforce fancied legal rights and who fail to get judgment in there favor.

Mr. WHITING. A change in the law in regard to the fees and status of attorneys or agents for prosecuting pension claims would help the matter very much, would it not?

The COMMISSIONER. I think it would, and I have examined and modified a bill which was introduced in the Senate by Mr. Hawley, and which, I think, if passed, will facilitate the business very much. Speaking of this matter of fraudulent pension claims, from the strong statements that were made to induce Congress to consent to make public the pension list, I was led to believe that when that list should have been made public we should be met with a perfect storm of complaints about men who were on the list, and with charges that they were improperly there and that their cases were fraudulent; but I have been considerably astonished at the very small amount of complaint that comes up from the country in regard to persons to whom pensions have been allowed. Inasmuch as it was thought best to make any publication at all of the pension list, I thought it wise to have it very widely published, so that no one could have a monopoly of it, and I must say that the principal effect of the publication so far has been, first, to allay the fears of many who thought the pension roll would be found to be filled with fraudulent cases, and second to flood the Pension Office with claims for increase through a few firms of

claim agents here in Washington. These claims have more than doubled under the influence of the stimulating circulars that have been sent out by agents who have got hold of the published list and who are instructing claimants that they are entitled to an increase of pension when in fact they are not.

The CHAIRMAN. Is it not by such means that a great many persons are induced to file claims for pensions? Are not a great many of the claims filed the result of the parties being worked upon by agents?

The COMMISSIONER. I am sorry to say that I think that is so to a very great extent. I have done what I could to stop that business, because I know that it is operating greatly to the disadvantage of meritorious claims in the office by loading us down with a lot of non-meritorious claims that have to be examined with all the usual care and scrutiny, thus consuming a great deal of time which might be spent in considering cases of real merit and in giving cause for adverse criticism, thus making the word "*pension*" a reproach when it should be an honor.

The CHAIRMAN. Please explain a little further the difficulties in the way of procuring evidence to substantiate claims based on disability—evidence to show that the disability originated in the service and in the line of duty.

The COMMISSIONER. Well, I will start with what I consider the most meritorious class. The claimants whom I regard as the most meritorious are the men who have a duty record running right through the war, who were always present for duty, and who were mustered out with their commands at the end. They certainly rendered more effective service to their country than did men who were in the hospitals much of the time, and yet those who were in the hospitals are often able to substantiate their claims by record evidence for disabilities, which, it is true, they may have incurred in the service, but which were probably largely increased by subsequent causes; while those who served directly in the field, and took all the hardships of exposure and all the chances of battle, who answered the roll-call every morning and reported regularly for duty, and who suffered at times a great deal of inconvenience and discomfort and hardship in the discharge of their duties, who marched when they were not well able to march, who were exposed when they should not have been exposed, and yet who managed to weather it all through, and to come out of the service with a straight record, are unable to do so. These men, when they changed their methods of life, when they reached home and have softer beds and an easier time, when they have less hardships and more of the "soft things" of life, were very likely to break down physically; when they apply for a pension there is often a gap between their service and the time when they became disabled, which cannot be filled satisfactorily under the requirements of the existing law, and we have to deny their application for pension notwithstanding a marked degree of disability is now found to exist. Now, as I have said, I regard these men as constituting the most meritorious class of claimants, and it costs me very great regret to be compelled to reject the application of such soldiers, yet it often has to be done under the law.

The CHAIRMAN. Is it not the fact that under the present law, and under the rules of evidence, which you necessarily lay down, a large class of men who were a great deal about the hospitals during the war, and who rendered less efficient service to the Government on the march and in battle than the others did, have been able to furnish the necessary evidence to get their cases more promptly through the Pension Office? That is, do not the cases of such men, under existing law, go through more easily than the cases of men who were ambitious to keep their place in the service, and to keep out of the hospital, and who really did the best fighting and the most efficient service generally.

The COMMISSIONER. Yes, sir; I am not here to ask that the pension law be made any easier for the class you speak of, but I do wish to see some legislation which will make it easier for the class who did good service for the Government in the field, the class that I have just described.

The CHAIRMAN. You would recommend, then, legislation which would let in cases of that kind upon evidence that they were in the service and were honorably discharged, and that they were in good health when they entered the service, and that they are now disabled?

The COMMISSIONER. Yes. If they rendered six months' service in the field, the presumption should be that they were in good health when they entered.

The CHAIRMAN. You would also, of course, require evidence that the disability under which they suffer is not the result of their own vices?

The COMMISSIONER. Yes, sir.

The CHAIRMAN. You think if there is a meritorious class among the men who served in the Army, that is certainly the class?

The COMMISSIONER. That is my opinion, and if recommending a change in the law which will make it easier for men of that class to obtain pensions brings opprobrium, I am willing to share it.

Mr. GREENLEAF. So am I. I have great sympathy with that class of men, but "bummers" I have not much regard for.

The COMMISSIONER. Speaking about fault-finding, I think I ought to say that this class of men we have been speaking about are usually modest, and are disposed to say, "Well, I only want my turn," while those whose cases possess little or no merit, but who have a "gilt-edged" hospital record, are generally apt to be pushing and insolent, and to insist on their cases being put ahead, and upon having every advantage for themselves at the expense of others.

The CHAIRMAN. Are you prepared to suggest to the committee the modification of the existing law that would be necessary to enable the Pension Office to do what you have suggested ought to be done with regard to such claims?

The COMMISSIONER. I can think of nothing that would be so fundamental and efficient, if properly guarded, or that would so nearly carry out what I believe to be the general wish of the people of the country on this subject, as that which I suggested awhile ago—a law providing that six months of actual field service and present disability not incurred by the claimant's own vice should be a ground for granting a pension. I would recommend that, and also what I have said in regard to pensioning widows.

The CHAIRMAN. In what ways or directions would you extend the provisions of the pension laws?

The COMMISSIONER. I would make some such enactment as that. I would not make it so as to repeal existing pension legislation. I would let the existing law stand, so that those who are able to prove their claims under it should still have the opportunity to do so; but I would make it elective with the applicants as to which law they should claim under. I would make that elective with the claimant, and I would require him to abide by his election. If a claimant found that he could not make this connection or produce the evidence required by the existing law, then I would let him put his case upon the other basis.

The CHAIRMAN. But if he could establish his case?

The COMMISSIONER. Then I would give him the benefit of the arrears act.

Mr. GREENLEAF. Ought not some provision be made with regard to the proofs to be required in such cases? Here, for instance, is a case in which the testimony of a surgeon is required, but the surgeon is dead, and yet the fact to which he might testify exists and might be proved in other ways if the law permitted.

The COMMISSIONER. Under the proposition I have mentioned, the claimant would have no proof to make except proof of his six months' service in the field, and proof of the fact that his disability did not result from his own personal vice. The actual existence of the disability would be proved by the report of the medical board who examined him, and the service and honorable discharge by the records.

Mr. GREENLEAF. Yes, but that would not entitle him to back pay.

The COMMISSIONER. No.

Mr. GREENLEAF. I know of the case of an officer who served meritoriously all through the war and kept out of the hospital and was in the field all the time. That man is now disabled, and yet for the lack of the testimony of a surgeon, who is dead, he cannot have a pension.

The COMMISSIONER. Is it a case of an obscure lesion?

Mr. GREENLEAF. No, the officer resides in Rochester, N. Y., and the surgeon whose testimony is required died recently in Germany. I sent notice of that fact to the Pension Office, and the word came back that the testimony of that surgeon was still required.

The COMMISSIONER. Is it known at the office that the surgeon is dead?

Mr. GREENLEAF. Yes; I made it known, and the answer came back just the same; that his testimony was necessary to establish the claim.

The COMMISSIONER. That may be a mere perfunctory answer which ought not to have been given. If you will examine our code of procedure you will see what is to be done in such a case. Take an obscure lesion, or a disease that a layman cannot speak about—take heart disease, for instance—neither you nor I could tell anything about heart disease from casual observation. I might see a man in this room overcome with a sudden pallor, and might think he had an attack of heart disease, when in fact the difficulty might be attributable to an entirely different cause. Those are the obscure cases in regard to which we require medical testimony. Now, as to what we call obscure disease and disease not obscure, we have made a classification which is set forth in these rules and regulations, and which, I think, makes the matter very clear. In all these cases we want *the best evidence*, and if we cannot get that, then we require the next best, and if that proves the case, well and good; but if it does not, then we must have the next best evidence, and if that proves the case, it may be allowed.

Mr. GREENLEAF. Then, the fact that after I had notified the office that this surgeon was dead, your officials sent me notice that the case was still lacking in the necessary proof, would seem to imply some other defect in the evidence besides the lack of the testimony of this surgeon?

The COMMISSIONER. I should think so.

The CHAIRMAN. I think the committee would be glad to have your views on these

points: In what directions, if any, ought our pension system to be enlarged? What ought our pension laws be made to cover that they do not now cover? For instance, ought they to be extended so as to include widows, prisoners of war, State troops that were not mustered formally into the service of the United States, men in the Quartermaster's Department, scouts, teamsters, and so on? Then we have some bills before us upon which we should be glad to have your views—bills proposing to pension all soldiers who served in the war, and then we shall be pleased to hear any suggestions you have to offer with regard to changes that ought to be made in the law in respect to the rating of pensions for different kinds and degrees of disability.

The COMMISSIONER. Most of the subjects embraced in your question I have touched upon in my report, and have expressed opinions about them that I do not care to depart from. I am on record with regard to those matters, and in answer to your question I beg respectfully to refer to my report. In the first place, there are quite a number of acts of Congress conveying title to *ante bellum* pensioners, persons who contracted their disabilities, diseases, or death causes prior to the civil war, and who were inadvertently omitted from the general revision of the law in 1874. You will find a digest of those in this book, at page 81.

Some of those are important. With regard to bounty claims, one source of fraudulent action is the facility with which duplicate land warrants may be obtained, and I think there should be legislation upon that subject which would throw the question of the right to the possession of a duplicate land warrant into the hands of the Land Commissioner. In my report you will find that I have called attention to that in as marked a way as I could. That is also the case with regard to old war claims.

Now, coming down to the late war, section 4693 of the Statutes, which gives title to pension to different classes of persons, ought, I think, to be amended so as to give the benefits of it for wounds, disease, and injuries to men who were not enlisted yet who were serving under orders of a general officer as scouts. It is objected that those men received large pay for extra-hazardous service. Suppose they did; so did the officers, and their service was not excelled by any in hardship and danger nor in importance.

The CHAIRMAN. And they all received like pay, but, in the exigencies of war, some were wounded and others were not.

The COMMISSIONER. Certainly; and in some instances they were fearfully mutilated.

The CHAIRMAN. And the pension is intended, is it not, as compensation, not for the service, but for the injury?

The COMMISSIONER. That is the idea—a compensation for the disability incurred.

Mr. GREENLEAF. How is it with regard to those connected with the Signal Service Office?

The COMMISSIONER. They are all included. They are Army officers detailed for that service. But there are some other people, teamsters, for instance, employés of the Quartermaster's Department, who are not entitled to pension under existing laws; yet those men, as we who were soldiers all know, were often exposed to very great hardship and danger. They often had their feet frozen in winter, and they were shot and mutilated in many instances. I have such cases brought to my attention which test my sympathies to the utmost, yet I cannot relieve them because they are not pensionable cases. I know a case in which a man lost both his legs under circumstances of great hardship as a teamster in a division wagon train, and yet not being enlisted, cannot receive pension.

Mr. GREENLEAF. I have in my mind an old negro, almost blind and completely disabled, who, under the orders of General Palmer, had charge of a contraband camp in Mississippi, and was disabled by a blow from a confederate officer who struck him with a poker; and the man has suffered from the effects of that blow during all those years. For years he has been in correspondence with General Palmer and has been trying to get a pension, but he does not come within the scope of the law.

The CHAIRMAN. Then, I understand that the Commissioner would recommend that the pension laws should be amended so as to apply to the men in the quartermaster's department where they were wounded or otherwise disabled in the line of duty.

The COMMISSIONER. Where they were subject to hardship and danger in the field with the troops. I should say also that men who served on transports and were wounded or received injuries ought to receive pensions. I do not see why they should not. This section, 4693, has a limitation which provides that these claimants must perfect their title prior to July 4, 1874. That provision practically excludes some of the most meritorious cases, and I don't see why there should be any special limitation. They should be upon the same plane with other soldiers and have the same privileges.

The CHAIRMAN. Did I understand the Commissioner to recommend that where the husband was drawing a pension at the time of his death the pension should be continued to the widow?

The COMMISSIONER. Yes, sir; that the widow should be allowed the pension.

The CHAIRMAN. Without requiring her to make a new claim or present additional proof?

The COMMISSIONER. I think she should identify herself and prove her celibacy and all that. I would simply provide that she should not be required to prove that her husband's death was due to the particular disability for which he was pensioned.

The CHAIRMAN. Is it not often the case that a disability contributes indirectly to a man's death or prevents him from providing the support for his family which he could otherwise provide?

The COMMISSIONER. I think so.

The CHAIRMAN. We have bills before us asking for pensions for all prisoners of war. Is there any particular reason why a prisoner of war should receive a pension except in so far as imprisonment might be a cause and evidence of disability?

The COMMISSIONER. I think that a man who suffers a present disability by reason of confinement as a prisoner should not be interrogated too closely as to its origin; I think that all presumptions should be in his favor, and that his case should be treated with the utmost liberality.

The CHAIRMAN. But, viewing the question broadly, is there or can there be any other ground for pension than existing disability incurred in the service?

The COMMISSIONER. Not in my judgment. At this distance of time from the war I think it is unwise to attempt to provide provisions for any other cause than actual disability arising from or due to disease, injury, or wounds.

The CHAIRMAN. That is, disability of some kind.

The COMMISSIONER. Yes, sir.

The CHAIRMAN. There may be gratuities given of course; but is there really any other ground on which a claim for compensation (and a pension is compensation I take it); is there any other ground on which a claim for compensation can safely and properly rest except disability?

The COMMISSIONER. I think not.

The CHAIRMAN. If you go outside of that where will you stop? What will you give the pension for? How much shall it be? If the pension is compensation for disability, and is intended to be commensurate with the disability, then you have a standard; but otherwise, you have none.

The COMMISSIONER. That is my opinion. Whether the pension should be made easier to get for one class than for another I do not undertake to say.

The CHAIRMAN. I have no hesitancy in saying that, in my opinion, the mere fact of having been taken a prisoner of war is not sufficient ground for a pension.

The COMMISSIONER. I hesitate to speak upon that point, because I feel it to be scarcely within the purview of my responsibility.

Mr. WHITING. Is not the man who was confined in prison during the war, and who is now suffering from disability, pensionable?

The COMMISSIONER. Certainly. The rule of practice is this: that where a man is shown to have been captured while serving in the line of his duty the presumption is that he was sound when he was captured. If he is shown, either by the record or by parol evidence, to have been suffering the disability for which he claims pension in a pensionable degree when he was released, no questions are asked, but the pension is at once granted. But then, it is incumbent upon him to show, either by the record, or by the other evidence which he offers, that he was in the line of duty at the time he was captured (I may say, in parenthesis, that the record generally proves that), and that he was disabled at the time of his release and has been so since. There is just one other qualification, viz, that the disability for which he asks pension shall be one that was incident to his confinement.

The CHAIRMAN. You have already stated, but I would like to bring it out fully in our record, that where you have evidence that a soldier did undergo imprisonment for any considerable length of time, that is regarded as probable cause of existing disability.

The COMMISSIONER. It is considered as an efficient cause for any disability that is shown to actually exist at release from confinement and return to our lines.

There is another class of claimants who, I think, have been totally ignored with regard to pensions, and who are as meritorious as any of the Regular Army and Navy cases that I have had to deal with. I refer to the revenue marine. The revenue vessels are armed, they run at great speed, and in time of war the men are always under exposure; in fact, the vessels are used practically as ships of war. Why the men in that service have been discriminated against in the matter of pensions I have never been able to discover. Not only are they subjected to the ordinary hardships of naval service, but even in time of peace, in the protection of the revenue, they are compelled to undergo much greater dangers than those in the Regular Navy are called upon to undergo. It seems to me that this Revenue Marine Service has been unjustly ignored heretofore in our pension laws, and justice would seem to require that those men should receive recognition at the hands of Congress, and should be put into line with others who are at best equally meritorious.

About the general service enlistments I will not enter into details, because my re-

port does that sufficiently, and there will be a bill from the Senate, a sort of omnibus bill, which is designed to cure most of the defects to which I have called attention in my report.

The CHAIRMAN. We have a bill here providing for the continuance of a pension to the widow of a deceased soldier after she marries again, on the ground that if she is entitled to a pension for the loss of her husband, that right continues and ought to continue without reference to a second marriage.

The COMMISSIONER. Well, I think that argument is a fallacy. If the Government undertakes to pension a widow, it is because it has taken from her, in its service, the man whom she had chosen to be her support in life, and while it does not assume to replace that support *in toto*, it does seek to compensate her in some degree for the loss. Now, if that is the true view, and if she deliberately abandons that support and elects to take another, I think she should abide her election. In case the second marriage is a void or a voidable one, I think that an equity would survive to the widow. Under the law as it stands, if such a marriage be void, and if it be so declared by the court, the widow is restored to her position, *ipso facto*, as if the intermission had not occurred.

The CHAIRMAN. But when you go a step further, when she has made her election once and when her second husband dies——

The COMMISSIONER. Well, I don't think there is any merit in that proposition at all.

The CHAIRMAN. If there is nothing further you wish to suggest on that subject, let us take up the question of classification and ratings of disabilities.

The COMMISSIONER. In rating pensions the first thing that strikes me as being inconsistent in the present law is that a volunteer soldier should be rated differently for the same disability from a volunteer officer, when both have come from the same grade in life and have returned to the same community.

The CHAIRMAN. You say *volunteer;* do you think there should be any distinction made between the volunteer officer and soldier and the regular officer and soldier?

The COMMISSIONER. Well, the regular officer is a man educated to a military life. He is a man whose whole life is devoted to the military service. He has no place to go back to in civil life. From his youth he has been separated and set apart for the military service, and he does not enlist in the Army for three years or for any particular term, but for his whole life. The regular soldier who has enlisted has enlisted for only five years, and when his term is up he is at liberty to go where he pleases, but the officer can terminate his service only by resignation.

The CHAIRMAN. Exactly; but because the Government educates a citizen free of charge and then gives him a commission in the Army, which he can resign at any time he chooses, and he commands a body of men in battle and loses a limb in the service, why should he be treated any better than a volunteer officer who has educated himself and who has left his avocation in life and engaged in the military service of his country and who has also lost a limb under like circumstances? Why should there be one rate of compensation for the one and a different rate for the other?

The COMMISSIONER. I think you have misunderstood me. What I meant was that, as between the volunteer officer and the volunteer soldier, there should be no distinction made on account of grade or rank.

The CHAIRMAN. But would you make a distinction between the regular and the volunteer soldier?

The COMMISSIONER. I am not sure that I would if I had the making of the law, but if there should be any such distinction I would not say that the regular officer should have a higher grade than the volunteer officer. But if you will allow me to say so, I think there is a most glaring inconsistency now existing in the law in this, that a regular officer never comes to our rolls for pension. He is retired on three-fourths pay, and for a disability for which a volunteer officer, may be getting $30 a month, a regular officer of equal rank in the service would get $187 a month.

The fundamental principle that there should be no distinction between a volunteer private soldier and a volunteer officer (for we are dealing with volunteers now) has been recognized by Congress in the legislation upon the statute book in this, that the law provides that a man who has lost a leg below the knee or an arm below the elbow shall receive $24 a month, and a man who has lost a leg at or above the knee or an arm at or above the elbow shall receive a pension of $30 a month. That provision brings private soldiers and the officers on the same plane, and that provision extends to equivalent disabilities, where a man has diseases or troubles which disable him to an equivalent extent. The volunteer soldiers are put upon the same plane with the volunteer officers, so that in the grading of the greater disabilities the law already recognizes there should be no distinction of rank.

Now, to carry that principle out to its logical conclusion would not affect a very large class; and there is really no reason why a lieutenant-colonel should receive $30 a month for a certain disability, while a young man who was a druggist, and who went out as a private at the same time as the lieutenant-colonel who went out as a captain, but who remained in the ranks and was discharged as such having just

the same disability as the captain (afterwards lieutenant-colonel) was, receives but $8 a month. It seems to me that logically we are bound to bring these lower grades up; at any rate, that is a fit subject to be considered by those who inquire into the revision of the pension laws.

The CHAIRMAN. That is primary; that affects the classification generally. Now, what have you to suggest as to the relative rating of different kinds of disability?

The COMMISSIONER. In that we have to depend largely upon the judgment of the medical examiners.

The CHAIRMAN. Allow me to call your attention to the many partial acts which have been passed as to specific disabilities, raising them one at a time, until the system has been put very much, it would seem, out of proper adjustment; is not this so?

The COMMISSIONER. If you will look on page 91 of my report you will find there a statement showing the different rates of pension per month and the number pensioned to each rate of the Army and Navy invalids on the roll June 30, 1883.

Rate per month.	Army.	Navy.	Total.	Rate per month.	Army.	Navy.	Total.
$1 00	1,545	20	1,565	$13 00	136	9	145
1 33	1		1	13 25	4	19	23
1 60				13 33	25		25
1 87	2		2	13 50	19	2	21
2 00	22,717	183	22,900	13 75	8		8
2 17	1		1	14 00	2,824	34	2,858
2 25	9		9	14 25	12	4	16
2 38				14 38			
2 50	17	11	28	14 50	5	1	6
2 66	581	4	585	14 75	2		2
2 75				15 00	1,630	41	1,671
3 00	3,605	47	3,652	15 25		1	1
3 20	1		1	15 50	1	2	3
3 33		1	1	15 75	1	11	12
3 50	1	1	2	16 00	1,189	12	1,201
3 66	5		5	16 25	5	3	8
3 75	323	4	327	16 50	4		4
4 00	53,729	518	54,247	16 66	15		15
4 25	412		412	16 75	5		5
4 50				17 00	1,106	2	1,108
4 75				17 25		2	2
5 00	1,777	71	1,848	17 50	11	2	13
5 25	3		3	17 75	8		8
5 33	527	2	529	18 00	5,407	74	5,481
5 50	5	1	6	18 25		4	4
5 62	5		5	18 50	6		6
5 66	91		91	18 67	2		2
5 75	11		11	18 75	97	2	99
6 00	30,816	306	31,122	19 00	5	1	6
6 25	74		74	19 25	9		9
6 37	6		6	19 50	1	2	3
6 50	1	3	4	20 00	1,046	21	1,067
6 66	38		38	20 75		2	2
6 75	4		4	21 00	5		5
7 00	308	2	310	21 25	2		2
7 25	1		1	21 75	1		1
7 50	961	24	985	22 00	1		1
7 75	9	1	10	22 50	86	2	88
8 00	31,074	454	31,528	23 75	1		1
8 25	11		11	24 00	9,602	124	9,726
8 33	1		1	24 50	2		2
8 50	1,187	1	1,188	25 00	275	1	276
8 75	11		11	25 75		4	4
9 00	29	5	34	26 25	2		2
9 25	21		21	26 66	1		1
9 50	14	4	18	27 00	1		1
9 75	2	5	7	27 50	5		5
10 00	6,461	86	6,547	28 50	1		1
10 20	2		2	28 75			
10 25	4		4	30 00	5,884	82	5,966
10 50	16	5	21	30 75		1	1
10 62	6		6	31 25	195	6	201
10 75	1	17	18	31 50	20		20
11 00	8	10	18	36 00	35	1	36
11 25	309	14	323	37 50	8		8
11 33	38		38	38 50		1	1
11 50	18	3	21	40 00	2		2
11 66	1		1	40 25		1	1
11 75	6	3	9	50 00	466	12	478
12 00	10,099	127	10,226	57 00			
12 25	15		15	72 00	802	27	829
12 38	1		1	100 00	1		1
12 50	199	21	220				
12 67	4		4	Total	198,643	2,468	201,111
12 75	538	1	539				

Mr. GREENLEAF. Under the existing law what pension is the widow of a captain killed in the service entitled to?

The COMMISSIONER. Twenty dollars a month.

Mr. GREENLEAF. What is the pension for deafness?

The COMMISSIONER. It is very inadequate. The pension for total deafness is only $13 a month.

The CHAIRMAN. What is the difference between the pension for the loss of one eye and the pension for the loss of both eyes?

A. The difference between $4 and $72.

Q. Is it not the fact that the loss of one eye almost invariably affects the other.

A. That can hardly be stated as a general proposition, but it often is so, and if there is any lesion of the other eye, it is a terrible disability. If one eye is perfect, still the loss of the other is a serious disfigurement. You cannot look at a man who has lost one eye without looking at that eye, and he knows it, and it is always a disfigurement.

Mr. GREENLEAF. It seems to me that the rate for deafness ought to be increased.

The COMMISSIONER. I have always felt that that was a totally inadequate rating.

The CHAIRMAN. Glaring inconsistencies or differences, such as that between the rating for the loss of one eye and the rating for the loss of both are not numerous, are they?

The COMMISSIONER. There are several such inequalities. For instance, a man whose shoulder joint has been disarticulated does not get as much pension as a man whose hip joint has been disarticulated. In many cases, probably the disability is about equal, yet one gets $37.50, and the other now only $30, and up to March 3, 1880, only $24. That has come about from this patch-work legislation. Then I think there is an inequality between the rating of a man who is totally deaf and that of a man who is partially so. The grading of total deafness is so meager that if you subdivide it for a man who has total deafness in one ear and partial deafness in the other, it is very trifling. The grading of that disability appears to be arbitrary. It lacks equality. We have adopted a sort of a scale, but I think it totally inadequate. Then, I think that lesions of a remaining eye should be rated up. That is certainly a very serious form of disability. So, I think there are glaring inconsistencies in having so many different ratings, and in the fact that a private soldier, for the same disability, does not get the same rating as an officer, nor a private soldier's widow the same as an officer's widow, that the man disabled since June 16, 1880, gets only $50 a month, while the man not any more disabled, but whose disability, amounting to that degree of helplessness, occurred shortly previous to that time, gets $72 a month. If $72 per month is, as I think it is, a fair measure of pension for a permanent disability causing helplessness so as to require the regular attendance of another person, or, in other words, if it represents the average earnings of two persons, a total pension should be one-half that sum, or $36 per month, as representing total inability to perform any manual labor, and infirm disabilities be rated proportionately lower on a divisible scale of that sum.

The CHAIRMAN. How many ratings are there altogether?

The COMMISSIONER. I think there are 172 altogether, but I give the exact number in the table in my report.

Now, as to dependent relatives, there is a class who, in the very nature of things, must be aged people. The average soldier is 46 years old, and the average mother must be about 65 years; but in point of fact the greater number of the dependent mothers are, I think, of greater age than that; they run up into the seventies. But at any rate, in the very nature of the case, the dependent mother is an aged person, and so must be the dependent father. Now, the law, as it stands, is quite narrow in its terms. I have no fault to find with it so far as the service of the soldier was concerned, death in the line of duty, and all that; there is no trouble about that part of the law; but so far as determining the question of dependence is concerned, the law in its present form works great hardship in many deserving cases. It requires that the proofs shall be confined to the time, or about the time, of the soldier's decease. Now, it frequently happens that the soldier who went into the service was of no practical assistance to his parents at the time he went in, and that either because he squandered his pay, or for some other reason, did not have any money to send to his parents, and yet he may have had the desire to support them and may have felt that he ought to, but unless proof can be brought to bear to show dependence on the part of the parent at that time, then, without reference to the service of the soldier, we have to deny the pension. Now, I think the spirit of the pension law ought to reach far enough to provide for a mother who *afterwards* became dependent upon the labor of her own hands, or the assistance of others, upon the presumption that her son would have supported her had he lived; and that is especially true of mothers who sent their only sons into the Army. In my report I cite as an hypothetical case one which was a real case, that of a widowed mother who was in the

enjoyment of a pittance, and who had spent her means largely, upon the education of her son for a professional career. The son was well educated, and was just about to graduate when the war broke out and he went into the service and was killed. The mother lived upon her estate or means, but in after years was so situated that she would really have been dependent on this very son had he lived; but we could not grant her a pension. In other words, the proof showed that the son had been dependent upon the mother up to the time when he enlisted, and that he had never sent her any money while he was in the service. That case brought this question of dependent mothers sharply to my notice and I cited it in my report as an instance. Now, the reason why I would give a pension to that mother would go farther, and it seems to me that the law should be amended so as to provide for cases where the condition of dependence has come about since the death of the soldier, because if the son had lived he would have been the support of the parent, and as the Government has taken him away I hold that the Government ought to try to make up, to some extent at least, to the dependent parent for the loss.

There is another thing that is working great hardship, and that is section 4698½ of the Statutes. In the consideration of such a vast amount of claims as have come into the Pension Office it is not wonderful that errors have been committed in ratings. Of course, disabilities have been rated unjustly low in times past. Now I am estopped by the law and by the decisions from undoing the work of my predecessors; but by section 4698½, if I see fit to increase a pension, I can only do it upon an examining surgeon's certificate, and that must be upon a pending claim for increase. The law reads: "Except in cases of permanent specific disabilities, no increase of pension shall be allowed to commence prior to the date of the examining surgeon's certificate establishing the same made under the pending claim for increase; and in this, as well as all other cases, the certificate of an examining surgeon, or of a board of examining surgeons, shall be subject to the approval of the Commissioner of Pensions."

I hardly know of anything in the administration of the law that has been more perplexing to me than the fact that I have had to stop at the examining surgeon's certificate in doing an act of justice. The law speaks of cases of permanent specific disabilities. Now, "permanent specific disabilities" are one thing, and "permanent disabilities" are quite another thing. A specific disability is something described in some act of Congress, such as the loss of an eye or the loss of a hand. It seems to me that there should be some better provision of law than that, so as to give the Commissioner of Pensions power to go back to the time when such a disability became *permanent*, because I think it would be an unsafe power to intrust to any one unless there was an element of permanency in the disability for which an increase is sought. The principle of the law is all right, so far as the progressive disability is concerned, but so far as regards permanent disability it is not right, because if the allowance of the claim is proper to-day it was proper yesterday and the day before. I have set out in my report what I regard as a sufficient remedy for the existing trouble in that respect. There are two other things that I wish to point out. I have spoken already of dependent relatives.

Section 4713 provides: "In all cases in which the cause of disability or death originated in the service prior to the 4th day of March, 1861, and an application for pension shall not have been filed within three years from the discharge or death of the person on whose account the claim is made, or within three years of the termination of a pension previously granted on account of the service and death of the same person, the pension shall commence from the date of filing, by the party prosecuting the claim, the last paper requisite to establish the same. But no claim allowed prior to the 6th day of June, 1866, shall be affected by anything herein contained."

Now, it operates in this way. If a person who had a case for disability originating in 1859 applies to-day for a pension, the pension will begin not with the filing of the application but from the time of the completion of the evidence, which may be three years later and the claimant will take nothing by reason of his diligence, which I think should be a prime factor always.

Now, with regard to section 4718, I think that most of you, gentlemen, have had your attention directed to that section of the statute. It is the one which carries the pension to the widow or the minor child of a pensioner who dies leaving some portion of a pension undrawn, and it carries it also to the widow or minor child of a man who has filed an application for a pension, and it provides that in case he dies with an application pending for a pension which he would have been entitled to receive had he lived, the pension shall go to the widow or the child. Now, why the law should stop at the widow and the child I cannot understand, because oftentimes, in the case of a dependent mother, she is taken care of by her son, who may be an applicant for a pension, and there seems to me to be no more reason why the law should apply to the one case than to the other.

Mr. GREENLEAF. I have had several cases of that kind myself. The limitation ought not to exist.

The COMMISSIONER. No; I think that for every reason of justice and equity the provisions of that section should be extended to the dependent mother.

Mr. CONNOLLY. Will that provision be included in the Senate bill which you have spoken of?

The COMMISSIONER. No, sir; I think not. It should have been put in there, but I think it was omitted.

Mr. GREENLEAF. I think you had better give us a memorandum of such points as are not covered by that Senate bill.

The COMMISSIONER. I will do so. I would suggest the following as such an amendment:

[Proposed amendment to section 4718.]

That section forty-seven hundred and eighteen, title fifty-seven of the Revised Statutes of the United States be, and the same is hereby, amended to read as follows:

SEC. 4718. If any invalid pensioner has died, or shall hereafter die, or if any person entitled to an invalid pension, having an application therefor pending, has died, or shall hereafter die, the accrued pension due to the date of death in such case shall be paid to the relative or relatives of such person in the following order of precedence, viz: First, his widow; second, his child or children under sixteen years of age; third, his mother; fourth, his father; fifth, his orphan brothers and sisters under sixteen years of age. Such accrued pension shall not be considered as a part of the assets of the deceased, nor liable to be applied to the payment of the debts of said estate in any case whatever, but shall inure to the sole and exclusive benefit of the person or persons who are herein declared to be entitled to the same. If no person survives, who is entitled as aforesaid to receive such accrued pension, no payment whatsoever of the same shall be made or allowed, except so much as may be necessary to reimburse the person or persons who bore the expenses of the last sickness [*i. e.*, the immediate attack which ends in death] and the burial of the deceased pensioner, where he did not leave sufficient assets to meet such expenses, which facts shall be adjudicated by the Commissioner of Pensions, under such rules and regulations as he may prescribe, who shall direct the payment of the sum found to be due, by the pension agent, to the person found entitled: *Provided*, That if any pensioner dies after having executed a voucher to the proper pension agent, as required by law, and the rules and regulations of the Pension Office, containing a receipt for the pension then due, signed and executed by the pensioner, then and in that case the payment shall be completed by the pension agent to the person entitled, or to the legal representative of such pensioner.

* * * * * * *

As to this matter of overpayment to pensioners that is in the bill, and I do not intend to talk about it here. The provision in relation to the Missouri State militia is also in that bill.

As to evidence of disability in case of application for restoration to the pension roll the only change I would make in the existing law would be that instead of the applicant for restoration being compelled to prove his right to restoration by medical testimony, he should be allowed to prove it by other testimony if he cannot prove it by medical testimony. In other words, I would have the words "other satisfactory" inserted before "evidence," which would give the applicant a right which I think he ought to have.

As to this question of attorneys, of all the perplexing, embarrassing, and harassing things that I have had to deal with in the administration of the Pension Office, that, I think, is the worst. But before I go any further into what I wish to say on that subject let me give full credit and justice to the class of painstaking and conscientious men who are engaged in that business because there are many such attorneys, both here and elsewhere.

Mr. GREENLEAF. We had a Mr. King, an attorney of this city, before us one day.

The COMMISSIONER. Well, I regard him as belonging to the class I now speak of, and I would except him and all individuals of the class to which he belongs from any remarks in the way of criticism that I may make upon these pension attorneys. From the very outset the questions of the relations of claim agents with the Pension Office and with the claimants has been a matter of great embarrassment to me. When I first looked into the question I found two things which seemed to me to be the efficient causes of the then existing condition of affairs. There was a feeling of hostility between the pension claim agents and the office, and a strong feeling of hostility on their part toward my predecessor in office, and, in fact, a general feeling of irritation on the part of the attorneys with reference to every requirement and every rule of the office which affected their status. I undertook a reformation of the rules regulating the status of attorneys practicing before the office. I did it with as much care and caution as I could, and, with the aid of such advice and experience as I could command, I made what I believe to be a fair code of rules. As I have said, the chief causes for the existing condition of things I found to be two in number: (1) That there was permissive authority granted by the act of June 20, 1878, or by an unfortunate construction that was put upon that act, which is regarded by them as permitting the attorney to draw

for fees in advance, while the fee law, which was in force prior to the 20th of June, 1878, whatever its defects might have been, made the fee of the agent a respectable one, and made it payable at the end of a successful prosecution of the claim, and not otherwise; giving security to the agent by providing for its payment by the pension agent out of the first payment of the pension. Under that law the agent felt that if he was successful his fee was secure, but on the other hand, if he prosecuted an unmeritorious or unsuccessful claim, his labor was lost. It struck me that in the repeal of this just provision, and the substitution of the act of June 20, 1878, and the subsequent construction of its provisions as to permit a demand for advance fees, was to be found the principal trouble, and one reason why a disreputable class of men were flourishing as claim agents, while those of the better class found it difficult to keep a standing in the business. The better class of agents felt that they ought not to demand a fee in a case until they had performed the service required, and had succeeded, while the other class cared very little about the success of the claim, but were after the fee; and so, by building up a large clientage and getting a large number of claims into their hands, and getting the fee in each case in advance, they secured to themselves very large incomes. Now, while I care nothing about the size of their incomes, that practice was working very disadvantageously to the business of the office, inasmuch as it was bringing forward a class of claims that had little or no merit, and yet that took a good deal of our time to examine. In my first report, which I prepared shortly after being inducted into office, I called attention, as sharply as I could, to that particular trouble.

The other cause that I have referred to arose out of the application of the rules which we have necessarily framed and put in force. The governance of this disreputable class, who apparently cared nothing for the interest of claimants, the rules of the office, or for anything else, except to get the advance fees into their hands, required some rules of a stringent character. We were compelled to adopt these stringent rules to control that class of agents, and those rules bore with unjust severity upon the diligent, reputable class of agents who were attemping to practice legitimately before the office. I sought, by my recommendations to Congress, to have a remedy provided for these difficulties. As an outgrowth of my first recommendation on that subject, a bill was formulated, I think, by the Senate committee, and was reported as a substitute for some other bill, and it passed the Senate. The effect of that bill was the practical re-enactment of the old law, giving the agent or attorney a right to make a contract for his fee, which should be subject to the approval of the commissioner, and fixing the fee, practically rehabilitating and re-enacting the old law as it stood before the passage of the act of June 20, 1878, which changed the fee from an outside maximum limit of $25 to $10, and provided that there should be no contracts filed, but that the agent and the claimant should settle the matter outside. That act provided, however, that contracts previously filed should be carried out in the final settlement of the claims in question. This bill of which I have spoken, which was intended to practically restore the old law, was prepared by the Senate committee (I assisted, I think, somewhat in its preparation) and it re-enacted sections 4768, 4769, and 4786 of the Revised Statutes, but it amended them so as to adapt them to the existing state of things, and provided a form of contract, and also provided that where there was no contract the fee should be $10, but that wherever there was a contract it might be as much as $25, with the approval of the commissioner. It also provided that all fees should be payable at the settlement of the case, and when the first payment of pension was made, and that no fee should be demanded or approved until there was a successful prosecution of the claim.

I think that was a very good bill, but it was defeated in the House for the reason that members did not like the idea of legislating $15 extra in each case into the hands of claim agents, and the bill was obnoxious to that objection; that it made it possible for them to file contracts in cases filed since June 20, 1878, and thus secure a fee of $25 in each of these cases which they had taken expecting but $10. I thought, however, that that was more an apparent objection than a real one, because in the practical operation of the law they could file contracts in all the cases filed in the office since the act of June 20, 1878, went into force; but, in fact, they would take nothing except in cases in which they were successful. Therefore, I did not think that there was very much force in the objection; but, at all events, it proved fatal to the bill. The same bill, however, has been introduced in the Senate by Senator Hawley and referred to the Committee on Pensions. It is Senate bill 1417. It seeks to re-enact the law as it stood prior to the passage of the act of June 20, 1878, which limits the attorney's fee to $10 in each pension case, and provides that there shall be no contract filed. The practical operation of that law of June 20, 1878, was that immediately upon the filing of a pension claim the agent, if he was an irresponsible one, was tempted to get the money from the claimant the first thing. As soon as he got the claim filed he would say, "I have filed your claim, and I want the ten dollars. If you cannot pay me ten dollars, I will take five now and the balance hereafter. If you cannot pay me five, pay me two dollars, or even one dollar; and if you

cannot do that, send me some postage stamps"; and by a regular scientific process of progressive dunning, cork-screwing, and threatening, he would go on until he got the ten dollars out of the claimant, and, of course, when such agents have got the full amount of the fee, their interest in the case would naturally cease, and they would then be entirely willing that somebody else should take hold of it. In this way an incompetent and useless agent could get as much money out of a claimant as a good one would at the end, render him little or no service, and then turn him over to some one else, who would repeat the operation, if possible.

The CHAIRMAN. In such cases the first man gets all he can out of the claimant and then turns him over to be operated upon by some one else.

The COMMISSIONER. Yes, in point of fact, agents of this character filed a great many cases for Confederate soldiers. They would file a case for anybody that they could get to make a claim, their object being merely to get the $10. Sometimes they would get the letter of rejection in a non-meritorious or barred case, and would hold it without informing the claimant until after they had got the full $10 fee. I have known cases where these men have held letters of rejection for a year, taking care to get the money meanwhile.

The lack of power to disbar an incompetent agent or compel him to obey and conform to our rules should be cited as one branch of this last subject; also, the abuse of the use of firm names to cover up and mystify the operations of disreputable agents, and the improper use of the power of substitution. All these are met and sought to be cured by this bill and its amendments.

Now, as I have said, this bill introduced by Senator Hawley re-enacts the old law and includes amendments which are designed to adapt it to the present condition of things. I think it is no more than fair to treat the cases filed by agents in such cases since the passage of the act of the 20th of June, 1878, as if there had not been any such act, and as if there had been no contract under the previous act. That takes away the objection which was made to the previous bill in the House, and which proved fatal to it. I will read the bill:

A BILL to amend the pension laws and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the act entitled "An act relating to claim agents and attorneys in pension cases," approved June twentieth, eighteen hundred and seventy-eight, is hereby repealed.

SEC. 2. That sections forty-seven hundred and sixty-eight, forty-seven hundred and sixty-nine, and forty-seven hundred and eighty-six of the Revised Statutes are hereby made applicable to all cases hereafter filed with the Commissioner of Pensions, and to all cases so filed since June twentieth, eighteen hundred and seventy-eight, and which have not been heretofore allowed, *except as hereinafter provided.*

SEC. 3. That section forty-seven hundred and eigty-five of the Revised Statutes is hereby re-enacted and amended so as to read as follows:

"SEC. 4785. No agent or attorney or other person shall demand or receive any other compensation for his services in prosecuting a claim for pension or bounty land than such as the Commissioner of Pensions shall direct to be paid to him, not exceeding twenty-five dollars; nor shall such agent, attorney, or other person demand or receive such compensation, in whole or in part, until such pension or bounty-land claim shall be allowed": *Provided*, that in addition to the usual *ex parte* presentation of any such claim, and the prosecution thereof in the Pension Bureau, there shall be conducted a special examination by an examiner of the Pension Office, of such case, and the agent of record has not for any reason attended the same, and that claimant has therefore employed another person to act as his attorney or counsel at the taking of depositions at such special examination, it shall be lawful to allow such additional attorney a fee of five dollars for each day so employed in such special examination, while attending the hearing before the special examiner, together with his expenses incurred in so doing, while actually present with the special examiner, to be shown by a sworn statement of items to be made and proven before such special examiner, such account to be made a part of his report to be paid by the pension agent out of the first payment of such pension as may be allowed.

SEC. 4. That section forty-seven hundred and eighty-six of the Revised Statutes is hereby amended so as to read as follows:

"SEC. 4786. The agent or attorney of record in the prosecution of the case may cause to be filed with the Commissioner of Pensions, for his approval, duplicate articles of agreement, without additional cost to the claimant, setting forth the fee agreed upon by the parties, which agreement shall be executed in the presence of, and certified by, some officer competent to administer oaths. In all cases where application is made for pension or bounty land, and no agreement is filed with, and approved by, the Commissioner, as herein provided, the fee shall be ten dollars, and no more. And such articles of agreement as have been heretofore, or may hereafter

be, filed with the Commissioner of Pensions are not authorized, nor will they be recognized, except in claims for original pensions, claims for increase of pension on account of a new disability not before alleged, in claims for restoration where a pensioner's name has been, or may hereafter be, dropped from the pension rolls, on testimony taken by a special examiner of his office showing that the disability or cause of death, on account of which the pension was allowed, did not originate in the line of duty, and in cases of dependent relatives whose names have been, or may hereafter be, dropped from the rolls on like testimony, upon the ground of non-dependence, and in such other cases of difficulty and trouble as the Commissioner of Pensions may see fit to recognize them: *Provided*, That no greater fee than ten dollars shall be demanded, received, or allowed in any claim for pension or bounty land granted by special act of Congress, nor in any claim for increase of pension on account of the increase of the disability for which the pension has been allowed, nor in any case filed in the office of the Commissioner of Pensions after June twentieth, eighteen hundred and seventy-eight, and prior to the date of this act: *And provided further*, That no fee shall be demanded, received, or allowed in any claim for arrears of pension or arrears of increase of pension allowed by any act of Congress passed subsequent to the date of the allowance of the original claims in which such arrears of pension or of increase of pension may be allowed.

"The articles of agreement herein provided for shall be in substance as follows, to wit:

"ARTICLES OF AGREEMENT.

"Whereas I, ——— ———, late a ——— in Company — of the ——— Regiment of ——— Volunteers, war of eighteen hundred and sixty-one (or, if the service be different, here state the same), having made application for pension under the laws of the United States:

"Now, this agreement witnesseth that for and in consideration of services done and to be done in the premises, I hereby agree to allow my attorney, ——— ———, of ———, the fee of ——— dollars, which shall include all amounts to be paid for any service in furtherance of said claim; and said fee shall not be demanded by or payable to my said attorney, in whole or in part, except in case of the granting of my pension by the Commissioner of Pensions, and then the same shall be paid to him or them in accordance with the provisions of the act of Congress approved.

"(Claimant's signature.)

"(Two witnesses' signatures.)

"STATE OF ———,
"*County of* ———, *ss:*

"Be it known that on this, the ——— day of ———, Anno Domini eighteen hundred and eighty ———, personally appeared the above-named ——— ———, who, having had read over to ——— ———, in the hearing and presence of the two attesting witnesses, the contents of the foregoing articles of agreement, voluntarily signed and acknowledged the same to be ——— free act and deed.

"(Official signature.)

"And now, to-wit, this ——— day of ———, Anno Domini eighteen hundred and eighty ———, I (or we) accept the provisions contained in the foregoing articles of agreement, and will, to the best of my (or our) ability, endeavor faithfully to represent the interest of the claimant in the premises.

"Witness my (or our) hand, the day and year first above written.

"(Signature of attorney.)

"STATE OF ———,
"*County of* ——— *ss:*

"Personally came ——— ———, whom I know to be the person he represents himself to be, and who, having signed above acceptance or agreement, acknowledged the same to be ——— free act and deed.

"And if in the adjudication of any claim for pension in which such articles of agreement have been or may hereafter be filed, it shall appear that the claimant had, prior to the execution thereof, paid to the attorney any sum for his services in such claim, and the amount so paid is not stipulated therein, then every such claim shall be adjudicated in the same manner as though no articles of agreement had been filed, deducting from the fee of ten dollars allowed by law such sum as claimant shall show that he has paid to his said attorney.

"And any payment to any person or persons of fees under this act in excess of twenty-five dollars in the aggregate shall be illegal within the purview of section fifty-four hundred and eighty-five of the Revised Statutes, the object of this act being to protect claimants from the payment of any greater fee than that provided herein for

services rendered them by a person or persons in successfully prosecuting their claims for pensions, which shall in no case exceed in the aggregate the sum of twenty-five dollars in each case, except as provided in this act for services and expenses in cases under special examination."

SEC. 5. The Secretary of the Interior may prescribe rules and regulations governing the recognition of agents, attorneys, or other persons representing claimants before his Department, and may require of such persons, agents, or attorneys, before being recognized as representatives of claimants, that they shall show that they are of good moral character and in good repute, possessed of the necessary qualifications to enable them to render such claimants valuable service, and otherwise competent to advise and assist such claimants in the presentation of their cases. And such Secretary may suspend, debar, dismiss, and disbar from further practice before his Department any such person, agent, or attorney shown to be incompetent, disreputable, or who refuses to abide by the said rules and regulations, or who shall in any manner deceive, mislead, or threaten any claimant or prospective claimant by word, circular, letter, or by advertisement.

SEC. 6. No firm shall be allowed to practice before the Department of the Interior, as agents or attorneys of a claimant, until each individual of said firm is known to, and by name appointed by the principal; and the name of each partner shall appear in the body of the power of attorney or other instrument constituting such firm as agent and attorney by their firm-name and style; and upon the withdrawal or death of any one of such individuals constituting such firm, the surviving partner shall notify both the claimant and the Interior Department of that fact, and such agency shall survive to the remaining partner, under such name and style as shall then be agreed upon between the surviving parties. Nothing in this act, nor in any law of the United States, shall be construed as creating or permitting an interest in a pension or bounty-land warrant, in favor of an agent or attorney, or coupling with any power of attorney granted by claimant in a pension or bounty-land case any interest in the claim or pension or land warrant granted thereunder. Nor shall any power of substitution, conveyed in a power of attorney in a pension or bounty-land claim, be recognized, unless accompanied with the written request of the claimant that the particular person or firm sought to be substituted be so recognized.

Now, I believe that the passage of that bill, with the suggested amendment, will enable me to cure the existing troubles growing out of the anomalous relation of the pension agents and attorneys with the Pension Office and with the claimants, and I believe, further, that this, or something of this nature, is imperatively required to cure present trouble and to prevent more serious complications in future.

The next point that I wish to call attention to is the medical branch of my office. That is, all things considered, in view of the present law and the time elapsed since the war, one that should be most carefully guarded and strengthened in every way, because it has to deal with the abstruse and obscure questions of the pathological sequences of disease. I will illustrate that by this remark: That very often, now, we have to give a man a pension for a disability which is due to a disease, yet is two removes from the original disease. Take, for instance, the disease of hemorrhoids. The hemorrhoids themselves, perhaps, did not make their appearance until five years after discharge, but it may be that their exciting cause was dysentery or chronic diarrhea, which had its origin while the man was in the service, and that that cause may itself have been dependent on some pre-existing disease, which also originated in the service. So you see our medical men have to deal with difficult and abstruse questions of cause and effect—questions which, in their very nature, are such that laymen are unfit to deal with them. Hence the necessity for a strong medical staff.

That remark leads me to speak of the testimony that they act upon. That testimony is, first, that which we get from medical men, who speak as expert witnesses about the effects and the primary causes that they discover, and of course testimony of that kind is in the nature of an expert conclusion, and it goes to our expert reviewers, who put it together and make up the case from it. Next, our medical men have to rely on lay testimony, which aspires to show merely the exhibitions of the disease. Then they have to deal also with the ratings, and that brings me to the question of the examining surgeons. They are to a large extent the only officers who see the pensioner, and while it is perhaps possible that they may be imposed upon by false personations, yet as a general rule they are men who must be relied upon by us to give us a true statement of the present condition of a claimant. They are not interested witnesses. They are, generally speaking, men of ability and character, who are selected carefully and put upon the boards with the expectation that they will be just to the Government and at the same time fair to the soldier, and that they will describe fairly what they see. Very early in my administration of the office I discovered that that was the weakest point in the whole office, and I brought it to the attention of Congress and secured legislation which cured the difficulty to a large extent, and which enables me now, I think, to get very satisfactory results. One of the first

things I had to do was to make an example of some of the single surgeons. I found that there were single surgeons who had been a long time in the service and had come to think that they owned the office, and that they were the arbiters of the fate of the claimants, and who treated the law as suited their whim; and I found cases of single surgeons who, for a consideration, were recommending the granting of very high pensions. Without impeaching the integrity of the great mass of single surgeons—and it should be remarked that the single surgeons did most of the business at that time, because there were less than a hundred boards altogether—I came to the conclusion that it was an unwise method of administration to leave so much power in the hands of individuals who were liable to be influenced one way or the other, either for or against a claimant, who were liable to be disposed to help a man because he was a patient, or likely to become one, or adveresly because he was the patient of a rival in practice, and hence I called the attention of Congress to the evil, and asked that a remedy should be provided; I asked authority to appoint as many boards of examiners as should be found necessary in order that the office might have the benefit of the joint judgment of three men in each case. I think the reasons for that rule are obvious, and I am sure the results have fully justified that legislation, so that now I think we have in the neighborhood of three hundred boards in operation, and their work, as a whole, is maintained satisfactorily.

The CHAIRMAN. All, or nearly all, the examinations, I believe, are now made by boards.

The COMMISSIONER. Yes; the statute which gave me that power provides that all examinations shall, so far as practicable, be made by boards, and none by the single suregons, except under such circumstances as make it impracticable for the claimant to present himself before a board. I have tried to locate the boards as much as possible with reference to the convenience of claimants, and have tried to select men of the best character, and when practicable to divide the membership as to politics, so as to have generally two of one party and one of another on each board. I do not say that all boards that have been constituted since this act went into operation have been constituted in that way, but where I thought it could be done without injury to the service I have organized the boards in that way for the reason that I have stated. The same law gives me the authority to constitute an extra board, as supervisory. So that if I think there has been bad work done by any board, I can review their work and see that it is done properly.

The CHAIRMAN. Have you appointed that supervisory board?

The COMMISSIONER. No, sir; I should appoint that only as the exigencies of the business may require. This same law provides that all examinations shall be thorough and searching, and the certificate contain a full description of the physical condition of the claimant at the time, which shall include all the physical and rational signs, and a statement of all structural changes.

That gives me a report not only on what the man alleges by his case, but it gives me a picture of the man, so that if he comes in with a subsequent allegation on a claim I can refer to this certificate and get his true condition. The certificate gives a record of his respiration, his pulse rate, his temperature, his relative weight and height, an analysis of his urine, and all these things, which enable me to know his true physical condition. I do not know that I could better this system much. I am not altogether satisfied with the procedure before the boards as to some classes of cases, but that is a matter of internal policy which I can control.

The CHAIRMAN. Have you a medical board here?

The COMMISSIONER. Yes, sir; I have an outside board in the city and an office force of eighteen qualified surgeons. There are also two experts, one on anatomy and one on diseases of nervous system. I do not think there are any men in the city who work as hard as they do. They often work extra hours and at all hours. It is just as much as they can do to keep up with the great mass of disease cases, nearly all of them presenting complicated questions of medical science. I do not think that I can suggest any improvement in that part of the work of the office unless it be to strengthen it still more. That, however, is a matter that I must consult with the Appropriation Committee about, and I shall have something to say to them about it when I go before them. I should like to have you gentlemen read the report of the medical referee, which is printed in full in my annual report.

Mr. CONNOLLY. I want to call your attention to the Poland bill providing for a pension to every soldier who served three months during the war.

The COMMISSIONER. I cannot say that I favor service pensions at this time, though I think the time will come when it may be necessary to provide for something of that kind.

Mr. CONNOLLY. On what ground do you favor the six months' service bill?

The COMMISSIONER. On the ground that there is an existing disability and that six months' service in the field raises a presumptive case in favor of the claimant that

he did contract his disease in the service, though he may not be able to prove it by the proof required under existing law.

Mr. CONNOLLY. What you desire is more ready and speedy methods to enable a really disabled person, whose disability results from his service in the Army, to establish his claim to a pension?

The COMMISSIONER. Yes, sir.

Mr. CONNOLLY. But you do not desire to change the basis of pension from disability to service?

The COMMISSIONER. No, sir.

The CHAIRMAN. I take it that the Commissioner does not look upon pension as a charity, but as a compensation due to the soldier under the law in force when he entered the service.

The COMMISSIONER. I believe that to be so. I believe that in the lapse of time and in the nature of the case the soldier is entitled to have certain presumptions raised in his favor from the fact of actual effective service.

The CHAIRMAN. Yes; that is, he is entitled to some easier methods of establishing his case?

The COMMISSIONER. Certainly.

The CHAIRMAN. Let me now call your attention to the question of granting pensions by special acts. I do not know how many bills are before both houses of Congress, but the number is somewhere up in the thousands, providing for pensions by special acts, selecting out individuals here and there who are unable to establish their right to pension before the Pension Office, and who therefore come to Congress and ask for special legislation. I should be glad to hear your views as to what class of claims, if any, are entitled to and should have the special action of Congress, and whether you think this class of claimants who come here because they cannot sustain their claims before the Pension Office should be granted this special relief.

The COMMISSIONER. Well, I would say in that regard that cases which are rejected in the Pension Office on account of the lack of merit ought not to have any consideration here; but there are cases which, under the present laws and rules of evidence governing the Pension Office, we are obliged to reject, yet which possess such evident equity and merit that it would seem only proper that the parties should have relief in some such way.

The CHAIRMAN. Then you would recommend special acts only in cases where the claim is meritorious, and where it can not be established under the existing laws?

The COMMISSIONER. Yes; cases where the claimant fails because of insufficient proof under the rules, or lack of title under general laws. For instance, I should say that the widow of a man who served in the revenue marine, who had, perhaps, been in the service for forty years, and had died, say, of Bright's disease, contracted in the polar seas, or collecting the revenues of the Government in Alaska, should be entitled to a pension. So of scouts and teamsters, and especially of widows of pensioners who die from causes not exactly and directly connected with the cause for which pensioned.

The CHAIRMAN. Your idea is that brigadier generals and commodores, and other high officers, should learn to save as well as other people?

The COMMISSIONER. That is my idea. There is a rule of the Pension Office, based on an old law of 1831, which provides that upon the discovery of merit in a pension claim which, under the rules of procedure and the laws, must be rejected, the Commissioner is authorized to certify to Congress the case, with his recommendation that a special act be passed; and I have issued an order, which is in operation now in the office, by which all chiefs of divisions in which claims are adjudicated understand that where a rejected case possesses merit it may be certified in that way, and we have already certified to this session of Congress a large number of cases which, in our judgment, ought to receive consideration, and I am glad to see that the committees are acting on our recommendation without any further solicitation.

The CHAIRMAN. In such cases you certify that you would allow the claim in the office but for some defect either of law or evidence.

The COMMISSIONER. Yes; that the case would be allowed if there not some legal or technical bar.

The CHAIRMAN. Can you state the number of pension agencies that are in the country?

The COMMISSIONER. Eighteen.

The CHAIRMAN. Do you think that the system could be consolidated so as to effect a saving and at the same time preserve the efficiency of the service?

The COMMISSIONER. I do not see how you can consolidate them further without a great deal of practical damage to the interests of the pensioners. There is only one consolidation, I think, that could be made, and that one could not well be carried out without disturbing the settled condition of things. While I would not recommend it, I think the agency at Augusta, Me., and the one at Concord, N. H., might possibly be consolidated. The Concord agency pays Vermont and New Hampshire,

the Augusta agency pays Maine, and the Boston agency pays Rhode Island, Connecticut, and Massachusetts. Now, the agencies at Concord and Augusta are not so large as some of the others, but still there is quite a considerable number of claims pending in those districts, and the prospect is that they will be considerably increased before the maximum of the roll is reached.

The CHAIRMAN. In the first place, would it delay materially the payment of pensions; in the second place, would it tend to reduce expenses, if we should concentrate all the pension agencies at Washington?

The COMMISSIONER. It most certainly would not economize. I think it would result in a greater expenditure and in very vexatious delays. I have expressed my opinion very fully in a letter which I have seen in print (though I did not have it printed), a letter addressed to Hon. Mr. Washburne, of the Committee on Appropriations.

The CHAIRMAN. Will you please incorporate that letter in this record?

The COMMISSIONER. I will do so; I want to call attention to the fact that there is no Government pay service that is done one-fifth as cheaply as this. The cost of the service is only one-half of 1 per cent, and I do not know any other service that does not cost 5 per cent.

WASHINGTON, D. C., *January* 24, 1884.

SIR: I have the honor to acknowledge the receipt of your letter of the 23d instant, stating that the Committee on Appropriations has in contemplation the abolition of the different pension agencies, and in lieu thereof to pay all pensioners from the Treasury, and you request my views in the premises.

This proposition involves so much that is of such vital interest to the pay service of the pension system, involving the question of economy and a proper regard for the convenience of the several thousand pensioners, that I deem it proper to refer to the matter considerable in detail, that you may be able to give it the consideration which it deserves.

In 1877 there were fifty-seven agencies for paying pensions. On the 1st day of July of that year this number was reduced by consolidation to seventeen, and afterwards increased to eighteen. Notwithstanding the confusion growing out of such consolidation by the transfer of records, files, &c., the delay necessarily caused by the biennial examination of invalid pensioners (then required by law), due in September following, the payment of pensions which became due September 4, 1877, were paid that quarter as promptly as formerly. Since that time there has been a steady and marked gain in the rapidity and promptness of payments. The experience afforded the several agents has enabled them to perfect the system, so that now it is believed that the largest number are paid in the shortest time.

There are not far from 315,000 pensioners on the roll at the present time. The vouchers upon which they are paid quarterly are prepared by the pension agents and sent to the post-office addresses of the pensioners before the quarterly payments become due.

The vouchers, as provided by law, must not be executed before the fourth day of March, June, September, and December of each year, on which days the quarterly pensions become due.

The great bulk of the vouchers are executed on the 4th and 5th of the "pay month," and sent by mail to the agent who is to pay the pension.

Taking the whole roll of pensioners, the following will represent the percentage of payments made during the first ten days from and after the day when pensions become due. It should be borne in mind that some of the agencies have large geographical districts, and it requires several days to receive vouchers from remote localities after they are mailed.

The first day 5 per cent. are paid; the second day 12 per cent. have been paid; the third day, 22 per cent.; the fourth day, 35 per cent.; the fifth day, 45 per cent.; the sixth day, 55 per cent.; the seventh day, 62 per cent.; the eighth day, 68 per cent.; the ninth day, 75 per cent.; the tenth day, 82 per cent. of the whole number on the roll.

From the fifth day to the eighth day after the payments become due the accumulation of vouchers is paid, and after that the payments are made upon each voucher within twenty-four hours after its receipt by the agent.

To accomplish such results requires an intelligent and efficient clerical force as a *permanent* force, and this augmented by the employment of an average of ten temporary clerks to each agency for an average period of fifteen days during each quarter.

As a further illustration of what is possible and practicable under the present system of payment under the more favorable mail facilities, I will take the State of Ohio, which comprises one agency district. The pension agent at Columbus in September last received executed vouchers and paid the same, as follows:

September 4, received 4,471 vouchers and paid 452.
September 5, received 6,490 vouchers and paid 1,913.
September 6, received 6,451 vouchers and paid 4,124.

September 7, received 2,529 vouchers and paid 7,542.

September 8, received 1,399 vouchers and paid 7,309.

By the above it will be seen that 21,340 vouchers were received and all paid by the close of business of the fifth day. In other words, he paid 80 per cent. of the whole number of pensioners on his roll in five days.

During the remainder of the month he received an average of 263 vouchers daily, and all were paid within twenty-four hours after their receipt.

These results are repeated each quarter with no material difference in that stated by the agent at Columbus, but to do this he employs an additional force of twenty-five clerks for an average period of from twelve to fifteen days each quarter.

If it were possible to have every voucher executed and in the hands of the agents on the day the pension became due the whole roll of pensioners could be paid inside of five days without a "hitch," as the system is so elastic as to adapt itself readily to any condition which might arise.

I deem it the most important point in the consideration of this question to consult the convenience and well-being of the several thousand pensioners, whether they shall receive their pensions expeditiously or be subjected to a delay from a week to three or four. Among the thousands of pensioners the indigent class are numbered by thousands. To them the difference of a day or two is one of suffering, hunger, and want. Take our larger cities, where agencies are located and where the pensioners can appear in person and receive their pension, and what is witnessed? Long before daylight a crowd is gathered at the agency (waiting for the agent to open his office), this constantly increasing as the day advances, requiring the attendance of police that the rights of one may not be disregarded by others as they wait their turn for payment.

The appearance of these pensioners, who so impatiently avail themselves of an early payment, show too plainly the suffering from not only their wounds or disease, but hunger and want of proper clothing.

Nearly 50,000 pensioners are paid in person at the agencies, where they can receive a check "payable to bearer," and upon which they can without delay or expense receive its proceeds. It is not infrequently the case where checks are issued payable to their order to find themselves obliged to pay a discount; also a fee to some one to identify them.

The hours of labor at the several agencies are governed very largely by the amount of work to be done. On the morning of the day when the payments become due it is customary with many of the agents to commence paying as early as daylight, and their force of clerks is kept busy until 11 and 12 o'clock at night until the rush is over. The average day's work for the quarter will exceed ten hours a day.

On the question of economy, by paying all pensions from the Treasury, for which you ask my opinion, I may state frankly and confidently that in my judgment the pensions cannot, by such change, be paid as cheaply as under the present system.

The pension agents employ about 120 clerks *permanently*, who work on an average more than ten hours per day. They are selected, as they naturally would be, for their qualifications for the special kind of work required of them. Can the Government, or, rather, would it be able to secure the services of 180 clerks, working seven hours a day, who would do more than the 120 pension agency clerks who work upwards of ten hours a day? If so, you will start in with a salary of not less than $240,000 per annum. As an equivalent to the temporary agency force, an additional salary list of (40 clerks) $40,000.

There is no building owned or leased by the Government which can accommodate such a force at present. If suitable quarters were found the rent would not probably be less that $12,000 or $15,000. The fuel, lights, and usual contingent expenses would, with the rent, fully equal $25,000 per annum. The item of postage would be saved to the pension appropriation, but lost to the postal revenue, while at present we pay the same from the pension appropriation. As it is a question of comparative cost to the Government the item of postage should be included, in amount $25,000. I understand that the Treasurer gives it as his opinion that the cost of issuing checks alone, to pay pensions, would be $99,000.

If the pensions should be paid from the Treasury, quarterly, as now, and by a force organized for that purpose, the average period which a pensioner would have to wait before payment was made would be forty-five days.

Change the dates of the quarters, so that one-third would be paid each month, and the average period would be fifteen days to each pensioner from the day his voucher was received until his check was mailed, not counting the time consumed in the transmission, by mail, from and to the pensioner

Of course it will be seen that one-half of the pensioners wait from fifteen to thirty days, and the only remedy would be to provide a force of temporary clerks, additional to the regular force, each month, to lessen the period of delay.

Reference has been made to the promptness with which checks are mailed from the Treasury to pay the quarterly interest due on Government bonds. The checks are prepared and signed before the interest becomes due; but in paying pensions, that

course cannot well be pursued. The check for payment of pension is not made until after the voucher has been received from the pensioner.

You ask if any considerable delay would occur, or time be lost, &c., in making a change. It would be same as though the whole clerical force of one of the bureaus of the Government were discharged and a new clerical force should step into their place.

If the plan, as proposed, to pay one-third of the pensioners each month, should be adopted, it would necessitate an entire change of records in the Third Auditor's office, and I believe I state it moderately in saying that the work of that office would be thrown more than a year in arrears in consequence.

The combined bonds of the several pension agents at the present time amounts to the sum of $2,225,000, the sureties thereon justifying, each for himself, in a sum double the amount, and in no case is a bond accepted unless at least three-fourths is upon unencumbered real estate.

The fairest argument, I think, that can be used to show the economy of disbursements, is to measure the cost by the amount of money disbursed. During the last year the cost per $1,000 disbursed on account of pensions was $4.76. The cost to pay the Army, by the several paymasters, the past year, is approximately from $20 to to $25 for each $1,000 disbursed.

These illustrations could be multiplied, but the limited time afforded me to reply to your inquiries will not at present permit.

I am, sir, very respectfully,

W. W. DUDLEY,
Commissioner.

Hon. W. D. WASHBURN,
House of Representatives.

The CHAIRMAN. What do you estimate will be the probable annual necessary expenditure in the Pension Department under existing laws, for the next ten years?

The COMMISSIONER. I could tell you what it would be if there were no new pensions granted.

The CHAIRMAN. What is the annual expenditure now, for pensions already allowed? I believe you have stated, however, in your report that it is about $33,000,000?

The COMMISSIONER. Yes, that is the aggregate annual value of all the pensions on the roll.

The CHAIRMAN. Is that roll likely to be an increasing or a diminishing roll in the future?

The COMMISSIONER. Under the existing laws, it will be increasing.

The CHAIRMAN. For a number of years, in consequence of arrearages, it will be increasing so as to require an annual expenditure of about what sum?

The COMMISSIONER. Rather than give an off-hand statement, which is very likely to be erroneous, I would refer you to the statement which I gave to the chairman of the Committee on Appropriations.

The CHAIRMAN. Well, when you come to look over the report of this hearing please incorporate with your statement such information on that point as you have given to the Committee on Appropriations, or any other such information as you may have at hand. I take it that the roll is going to increase to $50,000,000 or $60,000,000 a year for a number of years.

The COMMISSIONER. Yes, probably about that, in round numbers.

The CHAIRMAN. That will make the cost of the pension-roll about equal to the entire expenditure of the National Government prior to 1861.

The COMMISSIONER. Yes; you need not take into account, and, of course, I understand that you are not taking into account, the prospect of additional legislation, which may either increase pensions or add to the roll. I take it that the spirit of pensions is progressive. You seldom see any legislation that makes the pension-roll any less.

The CHAIRMAN. We have not had any such legislation yet, but it may become necessary to make a reclassification of persons who shall be entitled to pension.

The COMMISSIONER. Yes, I understand that. If that is done it will alter the problem; but taking the matter on its present basis, the annual value of the pension-roll is about $33,000,000. I think that was the amount last year, and this year it will be $35,000,000.

Memoranda for Hon. S. J. Randall, January 7, 1884, showing an estimate of the cost properly chargeable to the acts of January 25 and March 3, 1879.

Amount paid for arrears in cases which had been allowed prior to January 25, 1879	$24,807,964
Amount of arrears allowed since the arrears act to June 30, 1883	96,461,200
The yearly value of the pensions allowed since 1879, in excess of an average annual allowance of 11,000 cases, under arrears acts	8,744,482
Total cost which it is estimated is chargeable to arrears act up to July 1, 1883	130,013,646

The following is an estimate of the value of pensions due in pending claims which may be allowed computed to June 30, 1884. Also the annual value of one year's pension to those allowed since 1879, less the estimated annual allowance of 11,000 but for the arrears acts:

First. Sixty thousand two hundred and twenty-five cases have been allowed since 1879, in excess of an annual average allowance of 11,000. One year's pension to June 30, 1884, chargeable to arrears, would, at the yearly value of $105 to each case, be	$6,323,625
Second. There are 148,000 pending claims entitled to arrears. Estimate 60 per cent. will be allowed, and $1,200 as first payment in each, 88,800 × 1,200	106,560,000
Third. There are 93,986 pending claims, filed since July 1, 1880, not entitled to arrears. Estimate 60 per cent. will be allowed, there would be an average of two years due in each case, 56,391 × 2 × 105 to each case	11,842,110
Total due in pending claims	124,725,735
Add amount paid to June 30, 1883	130,013,646
Total	254,739,381

Two hundred and fifty-four million seven hundred and thirty-nine thousand three hundred and eighty-one dollars is the amount which may be chargeable to the arrears acts, except such proportion of the 145,191 cases now pending which may be allowed, in value $118,402,110, as would have been filed and allowed if the arrears acts had not passed. The bases of the second class of these estimates are that the claims pending should be settled during the present year; that 60 per cent. will be admitted and at the value stated.

These results would bring the roll of pensioners up to about 425,000, and the annual value of the same would be, in round numbers, about $44,000,000.

The CHAIRMAN. From the statements made by the Commissioner it seems to be quite evident that some legislation is required to better systematize the pension business and to carry out the recommendations of the Commissioner—legislation amounting to a revision of the pension laws, including a reclassification of disabilities. Now, I would ask the Commissioner whether, in his judgment, that can be done at this session of Congress by a general bill, or whether he would advise the creation of a commission of some sort, either a committee made up of members of the two houses of Congress in connection with the Commissioner of Pensions, and the medical referee, or some sort of an outside commission authorized and instructed to take up the whole subject and do this work of revision and reclassification?

The COMMISSIONER. In that connection I would simply say that if one may judge anything of the temper of the House and the Senate by the character of the bills that have been already introduced affecting general legislation on the subject of pensions, and also in view of the anomalous condition of the law in a great many respects as it stands, while I would not recommend that these measures of justice of which I have spoken should be delayed, but would recommend that temporary legislation should be had which would secure substantial justice in particular classes of claims, yet I think that before a revision of the law or anything looking to a recodifying of it is attempted there should be a commission organized who could give to the work abundant time and undivided attention, who could take up the whole subject and pursue it logically and fearlessly to the end, and make a report that would put our pension legislation on a basis of even-handed equity and justice.

The CHAIRMAN. If a commission of that kind were provided for at this session of Congress, would it not be able to make its report early in the next session, so that the present Congress might make such a revision of the laws as seems to be required?

The COMMISSIONER. It seems to me that if proper men could be selected—I do not care how, provided they were selected with reference to their willingness to devote their whole time and their undivided attention to the work—such a commission ought to be and would be able to produce something that would be of lasting benefit.

The CHAIRMAN. What sort of a commission would you recommend?

The COMMISSIONER. Well, I should think it might be a mixed commission, not composed entirely of members of Congress, nor entirely of officers of the Government; but in forming the commission I would draw somewhat from the class to be benefited by its labors. I would take some notable civilian and ex-soldier, a man of national reputation, and make him a member of the commission.

The CHAIRMAN. Would you not have members of Congress upon it?

The COMMISSIONER. Oh, yes; that would be the basis of the organization; but I would have others also, to act an advisory part. I suggested, in my annual report, that the Commissioner of Pensions should be a member of the commission, but

the more I think of it the more inclined I am to believe that it would not do. The Commissioner should be before that commission, but he should appear as a witness rather than be a member of the commission. The medical referee of the Pension Office should be a member, I think, because of his intimate knowledge of the disabilities to be dealt with.

The CHAIRMAN. But you think the Commissoner of Pensions should act with the commission even if he is not a member of it?

The COMMISSIONER. Yes. At first it struck me that it would be better that he should be a member, but on reflection I came to the conclusion that it would not do so well, because I take it that a commission of that kind, in its deliberations, ought to be entirely free from bias, and ought to be able to command universal respect for its report; and if any officer interested in the administration of the pension law were upon that commission, that fact might perhaps bring criticism upon the report.

Let me add one thing to what I have already said. This committee I look upon as having a great responsibility resting upon it in this matter of pension legislation, and I hope that among your other numerous duties you will take the trouble to examine the treatise on the practice of the Pension Office, which I have frequently referred to to-day, and also the rules of procedure. It will take some little time, but I think you will find it profitable; for the reason that by such an examination you will discover the spirit of our administration there, and I trust will find the spirit of liberality which I think pervades it. That is the spirit which I have tried to instill into the administration of the Pension Office so far as I possibly could.

Mr. YORK. Pending any action with reference to this proposed commission, can you not frame an amendment to the Senate bill which is soon to be reported, which will greatly improve the present condition of things, and upon which we can have prompt action?

The COMMISSIONER. I think so. That is, there are features embodied in the Senate bill that are practically the recommendations that are contained in my report. There are, however, several other things that are not in the bill, as reported. Some of them may seem very unimportant to persons who have not made this subject a study; but in the administration of the law we find practical difficulties which these recommendations are designed to remedy. In connection with the subject of medical examining boards referred to to-day, I will, with the permission of the committee, leave with you a letter of instructions that I have issued to the examining surgeons.

The letter is as follows:

DEPARTMENT OF THE INTERIOR,
PENSION OFFICE, MEDICAL DIVISION,
Washington, D. C., December 15, 1883.

DOCTOR: I desire to call your attention to the fact that the character of the disabilities for which applicants for pension are now claiming, demands the greatest possible care upon the part of the examining surgeons. As time has advanced the cases have become more and more complicated and obscure, and, therefore, more and more difficult of diagnosis. Moreover, in a considerable percentage of cases, whether original or increase claims, the disabilities claimed for are claimed as *sequelæ* of wounds or of diseases incurred in service, thus increasing the difficulties of the problems presented, and requiring the greatest care in their solution.

It should be the object of every surgeon and board to reach the truth in every case examined. But that cannot be done if for any reason the examinations be hurried. The experience of the medical referee has led him to the conclusion that it is not possible to carefully examine (and properly certify that which is found) more than twenty claimants per diem, when the disabilities consist of diseased conditions. Indeed, to carefully examine so many disease cases in one day implies a long and hard day's work; more time and more work, indeed, than most of the surgeons, because of their own professional engagements, can well afford in any one day. Too many examinations, therefore, imply haste, and that means imperfect work, and imperfect work means injustice and dissatisfaction.

It is not possible to formulate rules which will cover every case, but it is believed that if the surgeons, avoiding hurry, will studiously comply with the following suggestions the value of their certificates will be greatly increased:

1st. When disease of the lungs, or heart, or kidneys is alleged, or any affection the existence and degree of which may be positively determined by the methods of physical diagnosis, the *exact* facts should be ascertained and certified. To certify that disease of lungs exists is one thing—to certify the lung (right or left) and the area implicated, the character and stage of the disease, and the physical signs upon which the conclusions reached rest, is another thing. The one statement is too vague and uncertain upon which to base any opinion or action. The other presents the case clearly and distinctly, and states not only the diagnosis but the facts upon which the diagnosis was made.

To certify that a claimant has disease of the kidneys without having subjected the

urine to chemical and microscopical examination is to rest a diagnosis upon a "guess when absolute certainty is attainable.

What is true of disease of the lungs and kidneys is also true as to diseases of the heart. Careful examination will reach the truth, and care in certifying will give the office in each case the basis for just and intelligent action.

2d. When any disability is alleged as a sequel of some other disability, having determined the existence of the disability, its relation as a sequel must also be determined. In prosecuting the inquiry the history of the case from the outset should be learned, and a date of origin of the sequel fixed. The whole domain of sequential disabilities is a region of doubt and uncertainty, and nothing but the greatest care could in most cases bring out the facts or resolve the doubt. The purpose of the examination is, therefore, double, and no surgeon should be content with merely certifying the existence of the alleged disability and fixing a rating for it. He should certify the conclusion reached and the grounds upon which the conclusion is based.

3d. Every certificate should present the condition of the claimant in detail. The preparation of the certificates of examination by the Boards falls largely or exclusively upon the secretary of each, and not a few certificates are constructed upon the basis that if the opinions reached by the Board are presented that is all that is desired. The certificates are hurriedly constructed, and only the baldest outline of each case is given to the office. Such certificates rarely afford the grounds for any action, and cannot by any possibility be accepted as "satisfactory." Every secretary of a Board, as every single surgeon, should bear in mind that what it is his duty to do is to do so clearly, and fully certify each case, as that upon the "particular description" the office shall be able to determine that the diagnosis reached is correct, and upon the description alone to infer the degree of disability. That such certificates impose a large amount of clerical labor the office is fully aware, but no secretary and no surgeon should expect the office to accept anything less.

4th. Every surgeon, whether connected with a Board or not, owes to the office the very best work of which he is capable, no matter whether so-called "expert" or not. When, therefore, cases are presented requiring the use of "instruments of precision" in order to the diagnosis and determination of the degree of disability, no surgeon who has been trained in the use of these instruments can decline their use on the ground that his appointment did not include "expert" work.

5th. Great care should be taken to impress the claimants with the fact that they have been thoroughly examined. All that is essential to that end ordinarily is that an examination shall be "thorough," as the law requires. But that is not always enough. Not a few complaints are made that the surgeons are discourteous. Claimants state that the surgeons declined to listen to their statements, &c., &c. To listen to that which is not pertinent, particularly in the hurry of work and when many claimants are waiting, is not pleasant. Still, it should not be forgotten that a claimant may have something really important to say. He at least believes it to be important to a proper understanding of his case, and every claimant should, at no matter what expenditure of time, be patiently listened to until he shall have been fully heard.

The Commissioner begs to remind the surgeons that in recommending such increase in the fee as that would at least be fairly proportionate to the service required, he did so in the hope that a higher, better quality of professional work would be procurable.

The great purpose of this circular is to secure the attention of the surgeons to the necessity of care. Their certificates practically constitute so many vouchers upon which many millions of money are disbursed annually. The necessity, therefore, for care that upon the one hand no injustice be done claimants, and upon the other the public interests be protected, cannot be overestimated. It is the office and not the examining surgeons that finally determines the origin of disabilities and the rating to which claimants are entitled; and if inexamining claimants and in the construction of certificates this fact were constantly borne in mind it should seem that no intelligent surgeon could go far wrong. A life insurance company does not issue policies upon the mere opinion of its surgeons. It is true their opinions are required, but before the opinion is expressed all the facts touching the applicant's physical condition, as provided for by the blanks furnished, are *first* required to be stated. Just so with pension-examining surgeons, the office desires their opinion, but in addition it desires such a certificate of the claimant's condition as upon which (as in the case of the office of the life insurance company) an intelligent opinion may be based and a just and a proper rating allowed.

A considerable number of surgeons have written the office asking instructions under the act of March 3d of 1883, and the opportunity is taken to say that no new instructions are necessary. The "instructions" of 1882 are in force now as when issued, and should be followed until abrogated. The office fully understands how to apply the changed law, which makes no change in methods of rating necessary.

In conclusion, the following rules touching the method of conducting examinations

are laid down for the guidance of all, the observance of which is essential to thorough and satisfactory work:

1st. But one claimant should be under examination at a time, and his case should be fully determined before another be admitted to the examination room.

2d. Each member of a Board should most carefully examine each applicant. This enables each surgeon to reach an *independent* conclusion, to secure which was the real object of the organization of Boards, and which object any other method would defeat to greater or less degree.

3d. When any member of a Board cannot coincide in opinion with the other members, he should make and forward a minority certificate, stating all the facts and defending his diagnosis and rating. The signature of a member of a Board commits him personally to every statement made in the certificate, and no member of a Board should sign a certificate until, having carefully read it, he is certain it represents his views. The clerical character of a certificate is important. Bad spelling, bad diction, and illegible writing cannot but prejudice every member of a Board whose signature is attached.

It being true that, unless in very exceptional cases, no more than twenty claimants can be examined in a fair day's work, any number of examinations in excess of that will be taken as *prima facie lack* of care.

Every effort will be made to prevent more than twenty claimants presenting themselves to any Board upon the same day. But when they do so, the Board should ascertain which of the claimants it will subject to the least hardship to remain over, and resume the session upon the succeeding morning.

It will not be understood that the rule is imperative, that no more than twenty *must* be examined, but that as a rule no more than twenty can be *deliberately*, and, therefore, *thoroughly* and *satisfactorily* examined, as the law itself demands, in one day.

It is expected that the suggestions and rules herein laid down shall be fully and, it is hoped, cheerfully complied with.

WM. W. DUDLEY,
Commissioner.

T. B. HOOD, M. D.,
Medical Referee.

Mr. GREENLEAF. Has the Senate bill been reported yet from the committee?

The COMMISSIONER. Not yet; I have been before the committee twice in relation to that bill.

Mr. GREENLEAF. Would it not be a good idea to have that bill perfected before it leaves the committee?

The COMMISSIONER. Yes; I have been through the bill twice with the committee, and I expect to be present at another session.

Mr. YORK. Is it your expectation that such suggestions as you have been making here will be added to the present bill?

The COMMISSIONER. Well, I of course had to take such steps as I felt to be a matter of duty, regardless of the proposition to create a commission; but if it is to be taken as a settled fact that the commission is to be established, then, of course, many of these suggestions may well be relegated to that commission.

Adjourned.

APPENDIX.

At a meeting of the Committee on Payment of Pensions, Bounty, and Back Pay, on March 8, 1884, Generals Merrill and Wagner and Mr. Paul Van Dervoort, Past Commanders-in-chief of the Grand Army of the Republic of the United States, and Gen. C. H. Grosvenor, and the Hon. James Tanner, constituting the pension committee appointed by the National Encampment of the Grand Army of the Republic, appeared before the committee on behalf of that organization, and presented the following statement of their views, which was ordered, with other papers, to be printed as an appendix to the committee's report of a conference with Hon. Wm. W. Dudley, Commissioner of Pensions:

GENTLEMEN: The undersigned beg leave to respectfully represent to you—

1st. That they comprise "The Committee on Pensions" of the national body of the Grand Army of the Republic, and that this committee was instituted for the express purpose of having some recognized medium through which the Grand Army could officially address the Congress of the United States.

This committee, therefore, represents a constituency of upwards of 220,000 veteran soldiers and sailors. We desire to give whatever weight we may have as a body or as individuals in favor of such measures as we deem just, which may now or hereafter be before you. We likewise desire to protest against and condemn certain propositions, which are now on your files, ostensibly in the interest of the old soldier or sailor, but which seem to us to be inconsiderate, impolitic, and calculated to bring into disrepute the general standing of the saviors of the nation.

We are unqualifiedly opposed to the proposition to distribute land warrants to the veterans without regard to whether they occupy the land or not.

We are also opposed to the proposition to pay to the soldier or sailor to-day the difference in the value of the greenback when we received it in payment for our military services and the value of gold on the same date.

We are also opposed to the bill or bills proposing to grant pensions at the present time to *all* survivors of the war, regardless of whether they were wounded or became disabled in the service or are needy.

We are in favor of a bill granting pensions to survivors of rebel prisons who are suffering from disability, without compelling them to prove that such disability arose from said imprisonment. [Mr. Van Dervoort dissented, favoring the Robinson bill.]

We are in favor of the extension of the arrears limit to January 1, 1885.

We are in favor of giving the widows of veterans the increase from eight to twelve dollars per month. We would cheerfully recommend an even greater increase if we thought you would grant it.

We are in favor of the bill which provides that the fact, as shown by the record, of the acceptance and muster-in of the soldier and sailor shall be received by the pension authorities as *prima facie* evidence that he was sound at that time—the Government not to be debarred from proving that he *was* unsound at date of enlistment, but the *onus* of the proof to be on the Government.

We are in favor of a bill to give the men who lost both eyes, or arms, or legs, or an arm and a leg, or disability equivalent thereto, *one hundred* dollars per month.

We are in favor of increasing the additional pension for minor children from $2 per month to $5 per month, and extending the limit for minors from the age of sixteen years to eighteen years; and in case said minor child is insane, idiotic, or otherwise helpless, that there be no limit. Think of your own children living on *seven cents* per day.

We are in favor of the following amount of pensions for the hereinafter specified rates of disability.

For amputations at the hip or shoulder joint, or so near thereto as to prevent wearing an artificial limb, $50 per month.

For amputation of leg or arm, above the knee or elbow, or in case of amputation so near the knee or elbow joint as to render the joint useless, $40 per month.

For amputation below the knee or elbow, $30 per month.

We also favor the continuance of a soldier's pension to his widow or his dependent relatives regardless of whether he dies from effects of wounds or disease resulting from service or not.

We also favor giving pensions to all honorably discharged soldiers and sailors who are now disabled and are dependent upon their own labor for support or are sixty-five years of age, without compelling them to prove at this date that such disability actually arose from the service.

We believe that a present condition of physical inability and dependence upon others than those legally bound therefor for support, and the fact that the soldier or sailor left no widow or minor child, should alone be required to be shown by competent evidence to entitle the names of dependent parents to be placed on the pension roll, and no proof of dependence at date of death of the soldier should be required or necessary, and that such pension should commence at the date of and continue during such dependence.

We trust also that this session of Congress will not be allowed to expire without the passage of a law fixing the qualification and status of claimants and their agents or attorneys—remedial of the present existing anomalous condition thereof.

We are in favor of the passage of a bill for a just and equitable equalization of the bounties paid to soldiers by the General Government.

In conclusion, we beg leave to respectfully submit that if any one thinks the foregoing carefully considered requests make too large drafts on the resources of the country, that we represent a body of men on whom in the hour of its direst extremity the country made drafts of blood, of limbs, suffering, and life, and the nation's draft never went to protest.

GEO. S. MERRILL,
LOUIS WAGNER,
CHAS. H. GROSVENOR,
PAUL VAN DERVOORT,
JAMES TANNER,
Committee.

The following exhibits were also ordered by the committee to be printed with the report:

[Office of M. G. Howe, attorney and counseller at law, No. 57 Court street.]

BOSTON, *February* 21, 1884.

MY DEAR SIR: I am under obligations to you for a copy of your bill regulating the fees of attorneys in pension cases. It ought to be entitled "A bill making it penal for attorneys for pensioners to receive a fair compensation for their services." I have acted as an attorney in such cases for more than twenty years; of late years having done little, but sufficient to know that it now takes, on the average, three years to get a case through; that at least one-quarter of the cases are not successful; and that whereas during the war $10 was a reasonable fee, it is now worth, on the average, five times that to carry to a successful issue an application for a pension. Let him who doubts it make the experiment. I find that applicants for pensions are as intelligent as the average of community, and are as jealous of their rights.

I think that if the pensioner believes his attorney has earned the sum agreed upon, he should be permitted to pay it, and the latter should be allowed to receive it. The pension is paid to him, not to the attorney. The first payment will average, say, $800. It is the pensioner's own money to do what he chooses with it, except one thing, viz, that he cannot pay the attorney, through whose efforts he obtained it, a fair price for his labor. With as much reason Congress should prescribe the compensation of the attorneys for trying cases before the Alabama claims court or for trying cases before any United States court.

But if a limitation is, in the opinion of Congress, necessary, let it be equitable.

I have seen the bill (H. R. 3882) offered by Mr. Rogers. It provides for the allowance of $50 when extra services are done. In this respect it is more just than your own, but I am not satisfied with this. The law should allow the payment of any sum not exceeding $50, when agreed to in writing by the parties, to be reduced by the Commissioner of Pensions, if on an inspection of the evidence in the case, or otherwise, he deems it just to do so. I allow of a reduction, because I am not prepared to say that attorneys in Washington earn the fee which other attorneys do. Furthermore, you will bear in mind that one-third, and, judging from present indications, not over one-half of the cases pending and to be presented will be allowed; in these no fee is allowed. If the labor in these is lost, surely the successful ones ought, for this reason, to pay the more. This is the principle upon which all mercantile business is transacted.

Again, your bill makes no allowance for service in attending the special examination of the applicant and his witnesses. I take it that few cases will be settled unless upon a special examination of the applicant and his witnesses as provided by a recent act of Congress. At this examination the attorney should be present.

Each case will occupy, say, a day. Should no extra compensation be allowed for this service? I have lately been asked by an applicant, a former surgeon in the Army, to go to the State of Maine to be present at the examination of witnesses summoned to testify against the applicant. As the law now is, if the pension is not al-

lowed, I cannot, if I go, charge for this service, and if it is allowed I am not permitted to charge for it, or in other words, I can only take ten dollars for my services as his attorney in his pension case. A violation of this law in this particular would subject me to a fine or imprisonment. So I think I shall not go.

Your bill does not allow for such extra service, and is in this respect faulty.

Competent attorneys are a help to the Pension Bureau. Such attorneys will not be found unless they can be fairly paid. I know of no reason why they should not be so compensated as well as members of any other profession, and why Congress should interfere by penal enactment to prevent it.

In this matter, my dear sir, I have little personal interest except that in common with all good citizens I desire that our public servants enact no law which shall work injustice.

I am, with respect, yours, &c.,

M. G. HOWE.

Hon. JOSEPH R. HAWLEY,
United States Senate.

[Army and Navy Claim Agency of Milo B. Stevens & Co. Milo B. Stevens, Eugene E. Stevens.]

CASE BUILDING,
Cleveland, Ohio, January 30, 1884.

SIR: I have a copy of your bill H. R. 3882. I see one point that, in my judgment, might be improved. At the end of section 8 add: "*Provided*, That this section shall not apply to attorneys of courts of record and justices of the peace, or other persons who may charge a reasonable sum for advice and the preparation of affidavits or other necessary papers, not exceeding the sum of five dollars in each case."

The Pension Bureau, as you may be aware, prefers that the testimony should *not* be prepared by the attorney of record, nor, indeed, by any attorney, but by the witnesses themselves or by the magistrate who administers the oath, or by an attorney or other competent person who may be present at the time and place the witness is testifying. Witnesses are invariably so scattered that it is a physical impossibility that the attorney of record prepare all the testimony. If your bill should become a law and Esquire Jones should write out three or four affidavits in a case charging a dollar each he would have his neck in a sling at once; and nothing could caused the Pension Bureau more real solid comfort than to be able to prosecute the poor man putting it down to their credit as real genuine lovers of justice. Lawyers and others called upon to prepare such affidavits, not being willing to do it for nothing would have only one recourse—to refuse to touch them.

This proviso is not original with me. I find it in substance as I have here written it—S. 935, introduced into the Forty-seventh Congress by Mr. Teller, January 24, 1882. I dare say they put it in for the reasons I have suggested.

I am in the main well pleased with your bill. If I were to offer any more suggestions, however, I would say: Strike out your section 7 and put in sections 9, 10, and 11 of the bill of Mr. Teller, above referred to.

Very truly, yours,

MILO B. STEVENS.

Hon. JNO. H. ROGERS, M. C.,
Washington, D. C.

O

48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 44.

INDEBTEDNESS OF UNION AND CENTRAL PACIFIC RAILROADS.

LETTER

FROM THE

COMMISSIONER OF RAILROADS,

RELATIVE TO

The indebtedness to the Government of the Union and Central Pacific Railroads.

MARCH 31, 1884.—Ordered to be printed.

DEPARTMENT OF THE INTERIOR,
OFFICE OF COMMISSIONER OF RAILROADS,
Washington, March 28, 1884.

SIR: In response to your request, and also in compliance with the request of the chairman of the Committee on the Judiciary of the Senate, I have made an estimation showing approximately the amounts which would be payable by the Central and Union Pacific under the proposed funding bill, S. 1178; also, a calculation which shows approximately the difference in the amounts which would be realized to the Government at the maturity of the subsidy bonds, say October 1, 1898, under the Thurman bill and the proposed funding bill.

I submit them to your consideration, having sent like statements to the committee of the Senate.

Very truly, yours,

W. H. ARMSTRONG,
Commissioner.

HON. G. W. CASSIDY,
Chairman Committee on Pacific Railroads, House of Representatives.

COMPARATIVE STATEMENT OF ESTIMATED DEBT AND PAYMENTS DUE TO THE UNITED STATES FROM THE CENTRAL AND UNION PACIFIC COMPANIES, AS THE SAME WOULD BE UNDER SENATE BILL 1178, AND UNDER THE ACT OF MAY 7, 1878, COMMONLY CALLED THE THURMAN ACT.

CENTRAL PACIFIC.

Under Senate bill 1178.

Principal sum of bonds advanced:		
To Central Pacific		$25,885,120 00
To Western Pacific		1,970,560 00
Total		27,855,680 00
Interest at 6 per cent. per annum for thirty years, including interest paid and to be paid by the United States		50,140,224 00
Total debt and interest at maturity		77,995,904 00
Deduct:		
Amount repaid United States to June 30, 1883 (report for 1883, p. 8)	$7,653,813 07	
Estimated amount which will be reimbursed, by services or otherwise, under Thurman act, the average of annual reimbursements under which is $911,820.28, making from December 31, 1882, to October 1, 1884, one year ten months	1,671,303 94	
		9,325,117 01
Total debt at maturity of subsidy bonds—say, October 1, 1898—without allowing any credits after October 1, 1884		68,670,786 99
The interest on the whole subsidy debt to maturity being already charged, the new principal should bear interest on only so much as matures after the date of maturity of the subsidy bonds, which, for the purposes of this estimate, is assumed to be October 1, 1898. The bill proposes that the whole ascertained debt shall be divided into 120 semi-annual payments from October 1, 1884, of which 28 would mature up to October 1, 1898, to which date interest has been already charged. The one hundred and twentieth part of $68,670,786.99 is $572,256.56×28 equals		16,023,123 68
Amount to bear interest		52,647,603 31
Add interest at 3 per cent. per annum on payments maturing from October 1, 1898, to October 1, 1944 (forty-six years), when the last payment becomes due. Average maturity, 23 years, 2 months and 26.087 days		36,704,535 80
Add the non-interest bearing part of the new principal		16,023,183 68
Total new debt, principal and interest		105,375,322 79

As the bonds of redemption are to be of equal value, by dividing $105,375,322.79 into 120 equal parts, the value of each new semi-annual bond is found to be $878,127.69, or $1,756,255.38 per annum.

Under the Thurman act.

Principal sum of bonds advanced:	
To Central Pacific	$25,885,120 00
To Western Pacific	1,970,560 00
Total	27,855,680 00
Interest at 6 per cent. per annum for thirty years, including interest paid and to be paid by the United States	50,140,224 00
Total debt and interest at maturity	77,995,904 00

Deduct:		
Amount repaid United States to June 30, 1883 (report for 1883, p. 8)	$7,653,813 07	
Estimated amount which will be reimbursed by services or otherwise, under this act, the average annual reimbursements under which is $911,820.28, making from December 31, 1882, to October 1, 1884, one year ten months	1,671,303 94	
Credits from October 1, 1884, to October 1, 1898 (the assumed date of maturity), or on the basis of $911,620.28, as above, fourteen years	12,762,683 92	
Interest at 3 per cent. per annum allowed on $844,652.13, now in the sinking fund uninvested (report for 1883, p. 12), and that proportion of the credits from December 31, 1882, to October 1, 1884, applicable to the sinking fund ($1,000,007.54) from October 1, 1884, to October 1, 1898, fourteen years	774,757 06	
Interest at 3 per cent. per annum allowed on credits accruing after October 1, 1884, in sinking fund, viz, $545,458.66 per annum from their respective dates to October 1, 1898	1,641,830 54	
		$24,504,388 53
Balance due at maturity		53,491,515 47

COMPARISON OF CREDITS FROM OCTOBER 1, 1884, TO OCTOBER 1, 1898.

Under Senate bill 1178.

By payment of twenty-eight semi-annual bonds of $878,127.69 each		$24,587,575 32

Under the Thurman act.

Credits from October 1, 1884, to October 1, 1898	$12,762,683 92	
Interest on uninvested amount now in sinking fund, &c., as above	774,757 06	
Interest on further payment to the sinking fund, as above	1,641,830 54	
		15,179,271 52
Balance in favor of proposed bill		9,408,303 80

UNION PACIFIC.

There is difficulty in stating the account between the Government and the Union Pacific Railway Company by reason of litigation still pending, in which the meaning of "net earnings" and what are "fair and reasonable rates" for services, under the law, are both awaiting judicial determination.

Giving the company credit for all amounts actually reimbursed to the Government, and omitting all disputed accounts, the statement would be approximately as follows:

Under Senate bill 1178.

Principal sum of bonds advanced:	
To Union Pacific	$27,236,512 00
To Kansas Pacific	6,303,000 00
Total	33,539,512 00
Interest at 6 per cent. per annum for 30 years, including interest paid and to be paid by the United States	60,371,121 60
Total debt and interest at maturity	93,910,633 60

Deduct:		
Amount repaid United States to June 30, 1883 (report for 1883, p. 7)	$13,535,040 45	
Estimated amount which will be reimbursed by services on Union Division, under Thurman act, from December 31, 1882, to October 1, 1884, based on actual repayments from 1878 to 1882 ($1,091,732.10 annually), 1 year and 10 months	2,001,508 85	
Estimated amount which will be reimbursed by services on Kansas Pacific under act of 1864, from December 31, 1882, to October 1, 1884, based on actual repayments from 1872 to 1882 ($197,159.75 annually), 1 year, 10 months	361,459 54	
		$15,898,008 84
Total debt at maturity of subsidy bonds, say October 1, 1888, without allowing any credits after October 1, 1884		78,012,624 76
The interest on the whole subsidy debt to maturity being already charged, the new principal should bear interest on only so much as matures after the date of the maturity of the subsidy bonds, which for the purposes of this estimate is assumed to be October 1, 1898. The bill proposes that the whole ascertained debt shall be divided into 120 semi-annual payments from October 1, 1884, of which 28 would mature up to October 1, 1898, to which date interest has been already charged. The one hundred and twentieth part of $78,012,624.76 is $650,105.21 by 28 equals		18,202,945 88
Amount to bear interest		59,809,678 88
Add interest at 3 per cent. per annum on payments maturing from October 1, 1898, to October 1, 1944 (46 years), when last payment becomes due. Averge maturity 23 years 2 months and 26.087 days.		41,697,748 08
Add the non-interest bearing part of new principal		18,202,945 88
Total new debt, principal and interest		119,710,372 84

As the bonds of redemption are to be of equal value, by dividing the $119,710,372.84 into 120 equal parts, the value of each new semi-annual bond is found to be $997,586.44, or $1,995,172.88 per annum.

Under the Thurman act.

(Including repayments by Kansas Pacific under act of 1864.)

Principal sum of bonds advanced:		
To Union Pacific		$27,236,512 00
To Kansas Pacific		6,303,000 00
Total		33,539,512 00
Interest at 6 per cent. per annum for 30 years, including interest paid and to be paid by the United States		60,371,121 60
Total debt and interest at maturity		93,910,633 60
Deduct:		
Amount repaid United States to June 30, 1883, (report for 1883, p. 7)	$13,535,040 45	
Estimated amount which will be reimbursed by services on Union Division under Thurman act, from December 31, 1882, to October 31, 1884, based on actual repayments from 1878 to 1882 ($1,091,732.10 annually), 1 year 10 months	2,001,508 85	
Estimated amount which will be reimbursed on Kansas Pacific under act of 1864, from December 31, 1882, to October 1, 1884, based on actual repayments from 1872 to 1882 ($197,159.75 annually), 1 year 10 months	361,459 54	
Credits on account of Union Division, from October 1, 1884, to October 1, 1898, or the assumed date of maturity on the same basis as above, 14 years	15,234,249 40	
Credits on account of Kansas Pacific from October 1, 1884, to October 1, 1898, or the assumed date of maturity, on the same basis as above, 14 years	2,760,236 50	

Interest at 3 per cent. per annum allowed on the $858,532.16 now in the sinking fund uninvested (Report for 1883, p. 12) and that proportion of the credits from December 31, 1882, to October 1, 1884, applicable to the sinking fund ($1,000,754.43) from October 1, 1884, to October 1, 1898, 14 years	$780,900 37	
Interest at 3 per cent. per annum allowed on credits accuring after October 1, 1884, in sinking fund ($545,866.05 per annum) from their respective dates to October 1, 1898	1,843,056 81	
		$36,366,451 92
Balance due at maturity		57,544,181 68

COMPARISON OF CREDITS FROM OCTOBER 1, 1884, TO OCTOBER 1, 1898.

Under Senate bill 1178.

By payment of 28 semi-annual bonds of $987,526.44 each		$27,932,420 32

Under the Thurman Act.

Credits from October 1, 1884, to October 1, 1898, account of Union Division	$15,284,249 40	
Same account of Kansas Pacific	2,760,236 50	
Interest on uninvested amount now in sinking fund, &c., as above	780,900 37	
Interest on further payments to sinking fund, as above	1,643,056 81	
		20,468,443 08
Balance in favor of proposed bill		7,463,977 24

UNION PACIFIC.

STATEMENT ON THE ASSUMED BASIS THAT THE COMPANY HAS COMPLIED WITH THE REQUIREMENTS OF THE THURMAN ACT AS REGARDS THE UNION DIVISION AND THE ACT OF 1864 *AS REGARDS THE KANSAS PACIFIC FROM JULY* 1, 1878.

Under Senate bill 1178.

Principal sum of bonds advanced:

To Union Pacific		$27,236,512 00
To Kansas Pacific		6,303,000 00
Total		33,539,512 00
Interest at 6 per cent. per annum for 30 years, including interest paid and to be paid by the United States		60,371,121 60
Total debt and interest at maturity		93,910,633 60
Deduct:		
Amount repaid United States to June 30, 1878 (Public Debt statement)	$7,385,401 37	
Total of 25 per cent. requirement from Union Division, under Thurman act, from July 1, 1878, to December 31, 1882. (Senate Ex. Doc. 124, p. 32)	8,050,191 82	
Total of 5 per cent. requirement from Kansas Pacific under act of 1864, from July 1, 1878, to December 31, 1882	295,649 26	
Estimated amount which will be reimbursed by requirements of Thurman Act from Union Division from December 31, 1882, to October 1, 1884, based on the average of annual requirements from July 1, 1878, to December 31, 1884 ($1,788,931.51), 1 year, 10 months	3,279,707 77	
Estimated amount which will be reimbursed by requirements of the act of 1864, from Kansas Pacific, from December 31, 1882, to October 1, 1884, based on the average of annual requirements from July 1, 1878, to December 31, 1882 ($65,669.83), 1 year, 10 months	120,449 70	
		19,131,399 92

Total debt at maturity of subsidy bonds, say October 1, 1898, without allowing any creditors after October 1, 1884	$74,779,233 68
The interest on the whole subsidy debt to maturity being already charged, the new principal should bear interest on only so much as matures after the date of the maturity of the subsidy bonds, which, for the purposes of this estimate, is assumed to be October 1, 1898. The bill proposes that the whole assertained debt shall be divided into 120 semi-annual payments from October 1, 1884, of which 28 would mature up to October 1, 1898, to which date interest has been already charged. The one hundred and twentieth part of $74,779,233.68 is $623,160.28 × 28 equals a	17,448,437 84
Amount to bear interest	57,330,745 84
Add interest at 3 per cent. per annum on payments maturing from October 1, 1898, to October 1, 1944 (46 years), when last payment is due. Average maturity 23 years, 2 months, 26.087 days	39,969,500 62
Add the non-interest bearing principal	17,448,487 84
	114,748,734 30

As the bonds of redemption are to be of equal value, by dividing the $114,748,734.30 into 120 equal parts, the value of each new semi-annual bond is found to be $956,239.45, or $1,912,478.90 per annum.

Under Thurman act and act of 1884.

Principal sum of bonds advanced:		
To Union Pacific		$27,236,512 00
To Kansas Pacific		6,303,000 00
Total		33,539,512 00
Interest at 6 per cent. per annum for 30 years, including interest paid and to be paid by the United States		60,371,121 60
Total debt and interest at maturity		93,910,633 60
Deduct:		
Amount repaid United States to June 30, 1878, as above	$7,385,401 37	
Total of 25 per cent. requirement from Union Division under Thurman Act, from July 1, 1878, to December 31, 1882, as above	8,050,191 82	
Total of 5 per cent. requirement from Kansas Pacific, under act of 1864, from July 1, 1878, to December 31, 1882, as above	295,649 26	
Estimated amount which will be reimbursed by requirements of Thurman act from Union Division, from December 31, 1882, to October 1, 1884, based on the average of annual requirements from July 1, 1878, to December 31, 1884 ($1,788,931.51), 1 year 10 months	3,279,707 77	
Estimated amount which will be reimbursed by requirements of the act of 1864, from the Kansas Pacific from December 31, 1882, to October 1, 1884, based on the average of annual requirements from July 1, 1878, to December 31, 1882 ($85,699.83), 1 year 10 months	120,449 70	
Credits on account of Union Division from October 1, 1884, to October 1, 1898, or the assumed date of maturity on the same basis as above	25,045,041 14	
Credits on account of Kansas Pacific from October 1, 1884, to October 1, 1898, on the assumed date of maturity, on the same basis as above	919,797 62	
Interest at 3 per cent. per annum allowed on the $858,532.16 now in the sinking fund uninvested (report for 1883, p. 12), and that proportion of the credit from December 31, 1882, applicable to the sinking fund ($1,729,760.36), from October 1, 1884, to October 1, 1898, 14 years	1,037,082 86	

Interest at 3 per cent. per annum allowed on credits accruing after October 1, 1884, in sinking fund ($943,505.65 per annum), from their respective dates to October 1, 1898	$2,839,952 01	$49,023,273 55
Balance due at maturity		44,887,360 15

COMPARISON OF CREDITS FROM OCTOBER 1, 1884, TO OCTOBER 1, 1898.

Under Thurman act and act of 1864.

Credits from October 1, 1884, to October 1, 1898, account Union Division, as above	$25,045,041 14	
Credits from October 1, 1884, to October 1, 1898, to account Kansas Pacific, as above	919,797 62	
Interest on uninvested amount now in sinking fund, &c., as above	1,087,082 86	
Interest on further payments to sinking fund, as above	2,839,952 01	$29,891,873 63

Under Senate bill 1178.

By payment of 28 semi-annual bonds of $956,239.45 each	26,774,704 60
Balance in favor of Thurman act	83,117,169 03

W. H. ARMSTRONG,
Commissioner.

OFFICE COMMISSIONER OF RAILROADS,
March, 28, 1884.

48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 45.

PROTEST OF LEGISLATIVE ASSEMBLY OF UTAH.

MEMORIAL

OF THE

LEGISLATIVE ASSEMBLY OF THE TERRITORY OF UTAH,

PROTESTING AGAINST

The passage of the bills now pending in Congress or any other measures inimical to the people of said Territory, until after a full investigation by a Congressional committee.

APRIL 1, 1884.—Referred to the Committee on the Territories and ordered to be printed.

To the honorable Senate and House of Representatives of the United States in Congress assembled:

GENTLEMEN: We, your memorialists, the legislative assembly of the Territory of Utah, respectfully represent that we have been elected by the people of this Territory, under the provisions of the act of Congress known as the Edmunds law, to represent them in the local legislature; that we have, among other enactments, made provisions for the filling of the registration and election offices as authorized by section nine of that law, but our action has been rendered void by the refusal of the governor to sign the bill; that in consequence of that refusal one object of the Edmunds law has been frustrated, and the interests of one constituents have been jeopardized; that other bills needful to the progress of this Territory have been nullified by the governor; that measures have been introduced in your honorable body looking to extreme and, as we consider, harsh and unjust action towards the people of this Territory; that these measures have been prompted by untruthful statements made to your honorable body, and by a misunderstanding of the facts and of the political situation in this Territory. We therefore consider it a duty we owe to our constituents to memorialize your honorable body, and plainly, if briefly, explain to you the truth, and appeal to you for a full investigation before any further steps are taken towards the curtailment of the liberties of a people who are famed throughout the world for many qualities that mark them as good citizens.

The pioneer settlers of the Territory of Utah, after traversing a wilderness of more than 1,000 miles in extent, making the roads, building the bridges, and establishing ferries as necessity required, and having at the inception of their arduous journey given to the service of the Government five hundred of their most active and able-bodied men,

who were called out to assist in fighting the battles of their country with Mexico, arrived in these valleys during the summer and fall of 1847. They at once unfurled the flag of our country to the breeze, and took possession of the land, which was then a part of Mexico, in the name of the United States, and, declaring their allegiance to this Government, made immediate preparations to assume the responsibilities and acquire the privileges of statehood under the auspices of the Federal Union.

This region was then considered by those who had the best opportunities of judging, unfit for the habitation of any but savages of the most degraded type, and in its settlement the people had to contend with the destruction of their crops by the frosts, by insects, by drouth, and by the natural sterility of the soil, and to eke out a scanty subsistence upon thistle-tops and wild roots.

But by their persistent industry they redeemed the land from barrenness, introduced a system of irrigation which has been imitated with profit in surrounding places, and made possible the settlement of localities adjacent which were then considered worthless, but are now flourishing States and Territories of the United States. They were the first to call the attention of Congress to the feasibility of constructing a transcontinental railroad, the line for which they trailed as they crossed the plains; they established the first printing press west of the Missouri River, organized the first express company and mail line connecting the wild west with the borders of civilization; stretched hundreds of miles of the first telegraph line, and afterwards aided in the building of the Pacific Railway, that first bound the eastern to the western extremity of our common country. Although applying for admission into the Union as a State at the same time as California, a territorial government was given to Utah, while California, with no greater claims, was granted the privileges and rights of statehood, but Utah did not murmur. The wise and republican policy was adopted of selecting from her resident citizens many of the officers appointed by the President and Senate, and under them, with the officers elected by the people, the Territory prospered and grew so rapidly in numbers, wealth, and importance as to attract the admiring attention of the world. Then the policy of the administration was changed, and strangers, who had no interest in common with the people of Utah, were sent to occupy the prominent appointive offices. Among the evils entailed upon the Territory by imported officers were these: one Federal official absconded with the funds appropriated by Congress to pay the territorial legislature. A Federal judge of notoriously immoral character and acts, finding Utah an uncongenial clime, deserted his post and returned to Washington with the false report that the Territory was in a state of rebellion, and that the records of his court, the territorial library, and other public property had been destroyed. Without waiting to investigate these and other vile charges, the Government fitted out and dispatched troops to quell the supposed rebellion. Many millions of public money were wasted in this needless expedition, and after the rash step was taken beyond recall, a commission was sent to investigate, who discovered that the whole movement was founded on falsehood, and subsequently the troops were withdrawn. The cost to the country and the proofs of its folly may be learned from the public records; but the cost to the people of Utah, and the trouble, vexation, loss of property, and difficulties entailed upon them by this vexatious escapade are known only to those who endured them. An official investigation before instead of after the expedition would have saved them much unjust suffering and the country an immense amount of money, which was all needed in the civil war that followed.

During that struggle for the supremacy of the glorious Union to which the people of Utah have been ever attached, although no draft was made upon her sons for regular military service, because she was but a territorial dependency, yet when called upon by the parent Government for important aid they responded in such a manner as to elicit the thanks of the President.

Within twenty-four hours after a dispatch from President Lincoln was received calling for men to protect the mail and Government trains from the attacks of the wild tribes of the plains, a body of Utah militia were in the saddle, armed and equipped for the fray, and moving en route for the scene of strife, where they performed signal service against the Indians and protected many helpless traveling citizens who were on their way to the Pacific coast. Yet this very militia were forbidden, in 1870, by proclamation of a Federal governor, to drill, muster, or assemble for any purpose. In consequence of this arbitrary order, one that was in direct violation of a constitutional provision, the citizens in the outlying settlements were exposed to the incursions of savage tribes, who were thus encouraged to make raids upon them, because any organized assistance from the militia would be in violation of the governor's proclamation. So far was this order carried into effect that the aid of Federal soldiers was invoked to prevent the marching of a company of militia in Salt Lake City in a public celebration of the anniversary of American Independence. During the period of this invasion of the constitutional rights of citizens, a chief justice, newly appointed, joined with other officials in an attack upon the people to deprive them, under color of law, of rights vested in them by the organic act. In Washington City he proclaimed:

> The mission which God has called upon me to perform in Utah is as much above the duties of other courts and judges as the heavens are above the earth, and whenever or wherever I may find the local or Federal laws obstructing or interfering therewith, by God's blessing I shall trample them under my feet.

The results of his remarkable maladministration of justice was that attorneys refused to trust the cases of their clients for adjudication, the business routine of the various courts was entirely blocked, and respectable American citizens languished in prison, unable to secure trial, while criminals of the most notorious character were permitted to run at large.

In many instances well-known and worthy citizens were incarcerated merely on suspicion, and in others placed in durance vile on the testimony of men whose oath would not be taken in the most trivial civil case. Judicial chaos reigned supreme in a hitherto peaceful, quiet, and well-ordered community.

The Supreme Court of the United States, after a full and complete investigation, reversed nearly all the decisions of the Federal courts in this Territory then rendered. The chief justice was removed and order was again restored.

We refrain from enumerating many of the annoyances to which the people of Utah have been exposed through the overbearing and oppressive acts of imported officials, but must draw the attention of your honorable bodies to the course pursued by the present executive. From the first he has allied himself with a clique of adventurers, busy in stirring up mischief and circulating false rumors for the purpose of provoking ulterior measures that may result in their possible advantage, with nothing to lose and everything to gain. Any turn of the wheel so long as it be in the direction of a revolution may bring up something to their pecuniary advantage. He has taken the stump in their interest, pub-

licly insulted peaceable and respected citizens by untruthful allegations, and arrogated to himself extraordinary prerogatives. At the canvass for the election of 1880 he issued a certificate of election to his friend, the minority candidate, who received but 1,357 votes, while the candidate of the people received 18,568 votes. And the only excuse he could offer for this flagrant violation of his oath to uphold the laws of Congress requiring the governor to "declare elected the person having the greatest number of votes, and to issue a certificate accordingly," was that the minority candidate was "the person who, being a citizen, had the greatest number of votes." He thus assumed both judicial and legislative powers. Judicial in passing upon the citizenship of a candidate, who had served in Congress for several terms, and whose citizenship had been acknowledged by that body which alone held the right to judge of the qualifications of its members; and legislative in adding in the certificate to the law of Congress governing his duty, the words "being a citizen;" by this assumption and unlawful exercise of power he rendered void the franchises of more than 1,800 citizens representing the overwhelming majority of the population. We are here reminded of the striking words of the lamented Garfield:

> If in other lands it be high treason to compass the death of the king, it should be counted no less a crime here to strangle the sovereign power and stifle its voice.

He has on several occasions attempted to place in the local offices, for the purpose of controlling and disbursing the territorial finances, irresponsible individuals who are the open enemies of the people. This he has done under a pretended construction of the organic act but contrary to positive enactments of the legislative assembly, signed by his predecessors, virtually sanctioned by Congress, and deemed valid because of rulings rendered by the Supreme Court of the United States. He has, by an arbitrary exercise of the veto power, refused to sign bills enacted by the legislature unless provisions were incorporated therein in harmony with his personal designs and in extension of his executive powers. Even the educational interests of the Territory have been hampered and obstructed by his tyranny, and the legislature have been prevented from appropriating the money of the people whom they represent, for university purposes, according to the public desire. He has endeavored to injure the people whose interests he should labor to subserve, by attempting to inflame the public mind, in his official utterances and documents, and to influence your honorable body to take extreme measures towards this Territory, by which the extraordinary powers vested in the executive should be enlarged to the extent of complete despotism. To further this object his report to the Secretary of the Interior and his message to your memorialists were drawn up, containing many absolute falsehoods and misrepresentations and distortions of facts and conditions against which we earnestly protest, and concerning which we desire and ask for impartial investigation. It was in consequence of some of these inaccurate and specious statements that the act of Congress known as the Edmunds law was hurriedly passed, without full debate, to satisfy the clamor of the multitude raised without reason and provoked by calumny. Under the provisions of that law many constitutional guarantees have been ignored, and thousands of citizens have been deprived of vested rights of that valuable property—the elective franchise—which they have exercised for many years, without any process of law. This summary punishment was inflicted upon them without indictment and without trial, by operation of a test oath which virtually made them witnesses against themselves, and which

was *ex post facto* in its effects. This oath has been imposed upon the whole body of citizens without authority of law, being formulated by the Utah Commission, on whom no legislative powers were conferred by the Edmunds law, from which their authority is solely derived. It is as follows:

TERRITORY OF UTAH,
County of ——— :

I, ——— ———, being first duly sworn (or affirmed), depose and say that I am over twenty-one years of age, and have resided in the Territory of Utah for six months, and in the precinct of ——— one month immediately preceding the date hereof, and (if a male) am a native born or naturalized (as the case may be) citizen of the United States, and a tax-payer in this Territory; or (if a female) I am native born, or naturalized, or the wife, widow, or daughter (as the case may be) of a native born or naturalized citizen of the United States; and I do further solemnly swear (or affirm) that I am not a bigamist nor a polygamist; that I have not violated the laws of the United States prohibiting bigamy or polygamy; that I do not live or cohabit with more than one woman *in the marriage relation*, nor does any relation exist between me and any woman which has been entered into or continued in volation of the said laws of the United States prohibiting bigamy or polygamy; and (if a woman) that I am not the wife of a polygamist, nor have I entered into any relation with any man in violation of the laws of the United States concerning polygamy and bigamy.

Subscribed and sworn to before me this —— day of ———, A. D. 188–.

Registration Officer, ——— *Precinct.*

Your honorable body will perceive that under this oath, while men who cohabit with more than one woman "*in the marriage relation*" are excluded from voting and holding office, persons who commit the most flagrant sexual crimes are permitted to exercise the elective franchise and are eligible for any official position, so long as their filthy acts are outside of the marriage relation. These words we submit are an interpolation, and are contrary to the language and intent of the Edmunds law, and they were first used by the present executive of this Territory, who compelled every applicant for the office of notary public to take an oath containing that phrase for the purpose of excluding polygamists and admitting libertines and notorious debauchees.

The commission who, usurping legislative functions, enacted this test oath were by the provisions of the Edmunds' law authorized to remain in office until the legislative assembly should provide for the filling of the registration and election offices made vacant by the law and subject to the appointing power of the commission. Your memorialists respectfully represent that they have provided for the filling of those offices, and have passed an election law, as they believe, in full conformity to the Edmunds' law an other acts of Congress and incorporating the oath here annexed to be taken by all applicants for registration in order to exercise the elective franchise:

TERRITORY OF UTAH,
County of ——— *ss:*

I, ——— ———, being first duly sworn, depose and say that I am a citizen of the United States, (or) I have declared on oath, before a competent court of record my intention to become a citizen of the United States, and have taken an oath to support the Constitution and Government of the United States (as the case may be); I am over twenty-one years of age; I have resided in the Territory of Utah six months and in the precinct of ——— thirty days next preceding the date hereof, and I am not disqualified as a voter by any law of the United States or of the Territory of Utah.

Subscribed and sworn to before me this —— day of ———, 188 .

———,
Assessor.

By ——— ———,
Deputy Assessor.

This bill, a copy of which is herewith presented, was vetoed by Governor Murray. Your memorialists claim that it is strictly conformable to the laws of the United States, and a measure needful to the present interests of the Territory, and that if the provision extending the elective franchise to persons not fully clothed with the habiliments of citizenship was objectionable, it might have been expunged without impairing the remainder of the bill. And yet it is in accord with section 1860 of the Revised Statutes of the United States which confers power upon the Territories thus to extend the franchise. The oath presented in the bill is free from the immoral and unlawful features of the test oath *enacted* by the commissioners, but was too comprehensive for the governor, as it would exclude from the privilege of voting, and consequently of local office holding, all persons who are disqualified by *any* law of Congress or of the Territory. By vetoing this bill the governor has defeated the intention of your honorable body to dispense with the services of the Utah commission so soon as the conduct of elections was placed in the hands of non-polygamous officers appointed under the local laws. The evident object of this veto is to continue the commissioners in office, and to provoke additional Congressional legislation by which the small political liberty yet left to the citizens of this Territory may be yet further diminished and his gubernatorial domination may be extended. Another instance of his arbitrary exercise of the veto power is the contemptuous manner in which he treated the bill passed by your memorialists apportioning the representation of the Territory. In the governor's message to the legislature he recommended a new apportionment, "giving to each locality having the necessary population the right to choose its own members." Your memorialists promptly passed a bill apportioning the representation according to the population of the various districts. This was returned to the legislature unapproved, with the statement by the governor that the census of 1880 entitles every 12,000 of population to one representative in the council and every 6,000 of population to one representative in the house of representatives. The message closed with the following paragraph:

> If the legislature will pass an act apportioning the Territory into twelve council districts and twenty-four representative districts, as near as may be upon the foregoing basis, where each councilor and representative is to be voted for separately, I will be pleased to approve the same.

Another bill was drawn up in exact conformity to the governor's suggestion and promise, a copy of which is presented herewith. It passed both houses of the assembly and was duly forwarded to him for signature. But he forfeited his pledged agreement and treated the bill with the contempt of utter silence, neither approving nor rejecting it; and such is the dependent condition of the Territory of Utah that it does not need even the absolute veto of the governor to render void an act passed by the people's elected representatives, but his neglect to sign it is more mighty than the combined labors of thirty-six legislators chosen by ballot to express the popular will. The object of this insulting treatment of the legislature was, without doubt, to leave the way open for the passage of a measure now before your honorable body giving the governor alone the right to make the apportionment of the representation, although a very good law for this purpose passed in 1880, and signed by his immediate predecessor, is now upon the Territorial statute book, and there is no real necessity for any radical change.

Your memorialists submit that the political situation in Utah is thus: Four-fifths of the voting population, after excluding all who have been disqualified by the rulings of the Utah commission and their extreme

construction of the Edmunds' law, belong to what is called the People's party, and represent at least 80 per cent. of the entire population of this Territory. The other portion chiefly belong to what is called the Liberal party. The great fault of the majority seems to be that they select persons from among themselves to represent them and manage their local affairs. No person who has ever lived in the practice of polygamy is now permitted to vote or hold any office; therefore there can be no legal reason offered why the great majority of the voting citizens should not choose their local officers from among their own number. The only portion of the territorial government under the control of the people is the legislature, with the addition of a few ministerial officers to handle the funds raised by local taxation under the Territorial laws. The judicial and executive departments are in the entire control of the National Government, and all such offices are filled by national appointment. These, with other officials under Federal authority, including nearly all the postmasters, are numbered with the Liberal party, which, though in so small a minority, aims at the control of the only portion of the local government left to the people. And because the great body of the citizens refuse to accept the nominees of the minority, the proposition is made to abolish the legislature, whose members are elected by the people, and establish in its stead a commission appointed by the President and Senate of the United States, and thus sweep away from the Territory the last vestige of republican government. It should be remembered that to-day the law-making department elected by the people, is at the mercy of the appointed executive in the enactment of any law. The governor holds the power of *absolute* veto, and no two-thirds or even unanimous vote of the legislature avails against his individual dictum, or simple indisposition to append to a bill his signature; at the same time your honorable body exercises the power not only to disapprove of any local enactment which the governor may feel inclined to sign, but also to legislate directly for the Territory. So while the local legislature cannot enact any law without the consent of the governor and the approval of Congress, laws can be and are enacted by Congress without any voice or consent of the people who are to be governed by them. We respectfully ask if this is not sufficient national control and supervision over the only shred of political power left to the large body of American citizens who compose the voting population of this Territory.

We respectfully submit that the bills now pending in Congress in reference to Utah are manifestly unjust, and altogether unnecessary, to say nothing of their utter incompatibility with the spirit and letter of the Constitution of the United States. Not only is no good and sufficient reason advanced for the substitution of a legislative commission for the legislative assembly of Utah, but the measure would be without precedent in the history of our country. The Territory northwest of the Ohio was not governed in any such arbitrary manner as is proposed in these bills, but guarantees for local self-government were given, to take effect when the then sparsely settled district should contain inhabitants numbering but a small proportion of the present population of the Territory of Utah. There is no parallel between the case of any other section of the country which has been temporarily governed by persons appointed by the President and Senate of the United States, and that of Utah, an organized Territory, which has held and exercised the right to enact its own laws for the last thirty-four years. The District of Columbia is not to be compared with a Territory organized for

the very purpose of preparing it for the dignity and responsibilities of statehood, to which the District, wherein is the seat of National Government, and over which Congress has "exclusive jurisdiction," can never attain. And we respectfully submit that as it cannot now be alleged that polygamists make the laws, or vote into office the members of the legislature of Utah, the only pretext upon which such measures as the appointment of a legislative commission is founded, is that the overwhelming majority of the voting citizens will not select men to represent them from the small minority which now monopolizes the offices in the gift of the National Government; in other words, that because the majority will not vote as desired by the minority, they should not be allowed to vote at all. This is a true statement of the fact, stripped of the specious sophistries which are so generally thrown around it.

That this extraordinary measure would be considered abroad, as well as at home, to be despotic and subversive of the rights of citizens, your memorialists cite to your honorable body the cases of Jamaica and Canada, when similar propositions were made in relation to those colonies before the British Parliament. In 1839 Jamaica resisted certain direct legislation by the home Government, and considering that their legislative rights had been trampled upon by this interference of the British Parliament, the colonial assembly passed a resolution that it would abstain from the exercise of its legislative functions, except for the purpose of maintaining the public credit, until the obnoxious acts should be repealed and the members of the assembly "be left to the free exercise of their inherent rights as British subjects." A protest was forwarded to Great Britain which was considered insulting to the Crown and Parliament. A bill was introduced "to suspend the existing constitution of the island for a limited number of years, and to provide that during that interval its legislative functions should not be exercised except by the governor and council alone." But this, although moderate and merciful in comparison with the measures in reference to Utah now before your honorable body, was considered even in monarchical England a grave stretch of governmental authority. The colonists were permitted to be heard by counsel when the bill was discussed, and Sir Robert Peel, who was a very radical supporter of the doctrine of the power of Parliament, and who denounced the course of the colonists as "foolish and unjustifiable," declared that the bill was "neither more nor less than one for the establishment of a complete despotism—one that would establish the most unqualified, unchecked, unmitigated power that was ever yet applied to the government of any community in place of that liberal system which had prevailed for upward of one hundred and fifty years." And he asked whether Parliament had "ever treated with so much severity a conquered colony amid the first heat of animosity after the contest." The measure failed, and the attempt to pass it cost the ministry under Lord Melbourne their official positions, for through its failure they were compelled to resign.

Canada not only protested against the interference of the home Government, but made demands which Peel declared would, if conceded, establish in the colony a French republic. These demands not being granted the lower province proceeded to armed insurrection, and went so far as to measure arms with the regular British troops. The upper province joined in the rebellion, but both were defeated. Lord John Russell introduced a bill in Parliament to suspend the constitution of the colony, but this was deemed too severe and subversive of the rights of British subjects, so a new governor was sent out; the grievances of

the people were inquired into, and subsequently Lord John Russell, who had proposed the obnoxious and oppressive measure, seeing and acknowledging his error, like a true statesman, introduced a bill establishing home rule by a legislative union of the two provinces on the principles of free representative government, and on the wise policy advocated by the celebrated Fox, that "the only method of retaining distant colonies with advantage is to enable them to govern themselves." Your memorialists respectfully ask whether it is too much to suggest that the example of Great Britain in examining into the alleged wrongs complained of by its colonies and refusing to violate the rights of its subjects and the principles of liberty that enter into every constitutional government, might be profitably imitated by this great Republic in its policy towards Utah, which has never swerved from loyalty to the National Government nor rebelled against its laws, however severe?

There are other measures before your honorable body which, if not so sweeping as the bills for governing Utah by a legislative commission, are none the less hostile to the rights and privileges of citizens. The proposition to compel a wife to testify against her husband, we submit, would do violence to the rules of jurisprudence that had become revereable with age and sacred by usage for centuries. The highest judicial tribunal in the land has declared that the rule that neither the husband nor the wife shall be compelled to testify against each other is founded upon principles that "constitute the basis of civil society, to impair the sanctities of which would be to destroy the best solace of human existence," while to break it down would be "to shake the very foundations of society." To attach witnesses as is proposed, without previous service of subpœna, and a disobedience of the mandate of a court, would be unprecedented and subversive of the rights of citizens; no person, however innocent, would be safe from seizure under such a law, and while the individual accused of crime could give bail and be at liberty pending his trial, the alleged witness, not charged with any offense, could be captured and incarcerated for an indefinite period.

The elective franchise now held by women voters, against whom no accusation is made, and who cannot be charged with polygamy or any other offense known to the law, is sought to be wrested from them, by which they would be summarily deprived of a right which they have exercised for twelve years or more.

The attempt in another bill to make non-membership in a certain religious organization a qualification for voting and holding office, appears to your memorialists so utterly subversive of the plain limitations of the powers of Congress, as defined in the Constitution, and of the genius of our Government, that no remonstrance on our part will be necessary. The time has surely not arrived when a religious test shall be imposed as a qualification for any position of trust or as a disqualification for exercising the elective franchise.

Your memorialists have to complain of gross misrepresentations by which your honorable body has been deceived in reference to the true sentiments of the people of Utah and their political and social status. The public mind has been inflamed in consequence of untruthful rumors, facts distorted, and tales invented, until it has become almost impossible to correct the false impressions that have been made, not only upon the country, but also upon Congress. For, added to the exaggerations of the pulpit and the press, are official statements which naturally have

great weight, but which, in many respects, are as incorrect as the common, base fabrications designed to mislead and prejudice the public.

We earnestly protest against the passage of any measures that have been prompted by this popular agitation caused by misconception of the facts, and urge that it cannot be right, but it is manifestly unjust to punish a whole community for the alleged offenses of a portion of its people, and to deprive a large body of citizens, against whom no crime can truthfully be charged, of the commonest political rights and privileges, because they do not think as other people desire, nor vote themselves under the control of those who persistently malign them.

Many of the people of Utah have descended from those noble patriots who struggled and bled for the liberties now enjoyed in the States of our glorious Union. They venerate the principles for which their ancestors lived and labored, fought and died. Shall they be deprived of the precious heritage bequeathed to them, because they, like their forefathers, entertain religious views that are considered heterodox? Are they to be condemned and punished unheard? Shall popular clamor and sectarian animosities overawe the statesmen of the nineteenth century and prevail upon them to wrest from citizens against whom no offense against the law can be charged the commonest and yet most valued political rights and privileges? Because a few are accused of a practice that modern civilization condemns without understanding, are their fellow-citizens, who have committed no overt act against the popular sentiment or the laws, to be punished and relegated to serfdom? Are the services of the people who have opened up this vast region to civilized habitation and progress to be counted for nothing? Shall the many virtues of a sober, thrifty, industrious, and peaceable community be lost sight of because of one feature of their faith which modern society does not tolerate? Must the libels of official and other persons interested in the subjugation of Utah and its exclusion from statehood be always received as truth, and the denials and appeals for a fair investigation by the accused people be ever rejected?

By the blood poured out in defense of the liberties we are prevented from enjoying; by the struggles of the early colonists against measures similar in essence to those against which we now protest; by the principles enunciated in the Declaration of Independence; by the guarantees of the national Constitution; by the right of local self-government, which is vital to American liberty; by the franchise which has become our valued property; by the toils and privations of the brave pioneers who led the way to these mountain fastnesses; by the just ambitions of our budding youth; by the bright hopes and lofty aspirations of a hundred and seventy thousand people who protest against oppression; by the vested rights of our sister Territories whose freedom is menaced by the precedent afforded; by our threatened political destruction; by that justice and equity which should be meted out to all the citizens of this great nation irrespective of creed or party; we appeal to you not to condemn us unheard; not to take from us the few political privileges that distinguish us from conquered slaves; not to deliver our fair and flourishing Territory into the hands of men irresponsible to the people; not to reverse for us the established rules of civilized jurisprudence; not to disfranchise the innocent for the alleged offenses of the presumably guilty; not to encroach upon our rights of property; not to apply to us a religious test for political purposes, nor to pass any such rash and revolutionary measures as have been proposed, but to postpone any further action towards Utah until a committee of your own number or

other disinterested persons appointed specially for the purpose shall have impartially investigated the whole subject of the situation in Utah and have reported to your honorable body so that you may act with a fair understanding of all sides of these important questions.

And your memorialists will ever pray.

Adopted by both houses of the legislative assembly of the Territory of Utah this 13th day of March, in the year of our Lord one thousand eight hundred and eighty-four.

JAMES SHARP,
Speaker of the House of Representatives.
W. W. CLUFF,
President of the Council.

Attest:
JUNIUS F. WELLS,
Chief Clerk of the House of Representatives.
CHAS. W. STAYNER,
Chief Clerk of the Council.

EXHIBIT A.

(C. F. 34.)

Copy of the first apportionment bill vetoed by Governor Murray.

AN ACT apportioning the legislative representation of the Territory of Utah.

SECTION 1. *Be it enacted by the governor and legislative assembly of the Territory of Utah* That at the general election, in the year eighteen hundred and eighty-five (1885), and biennially thereafter, Cache and Rich Counties shall elect one councilor to the legislative assembly; Box Elder and Tooele Counties, one; Weber County, one; Davis, Morgan, and Summit Counties, one; Salt Lake County, two; Utah, Wasatch, and Uintah Counties, two; San Pete and Emery Counties, one; Juab, Millard, and Sevier Counties, one; Beaver, Pi Ute, Iron, and Garfield Counties, one; Washington, Kane, and San Juan Counties, one.

SEC. 2. At the general election, in the year eighteen hundred and eighty-five (1885), and biennially thereafter, Cache and Rich Counties shall elect two representatives to the legislative assembly; Box Elder County, one; Weber County, two; Davis and Morgan Counties, one; Summit County, one; Salt Lake County, five; Tooele County, one; Utah County, three; Juab and Willard Counties, one; Wasatch and Uintah Counties, one; San Pete and Emery Counties, two; Sevier County, one; Beaver and Pi Ute Counties, one; Iron and Washington Counties, one; Garfield, Kane, and San Juan Counties, one.

SEC. 3. This act is designed, and is hereby made, to supersede "An act entitled an act apportioning the legislative representation of the Territory of Utah, approved February 20th, 1880."

JAMES SHARP,
Speaker of the House of Representatives.
W. W. CLUFF,
President of the Council, Governor of the Territory of Utah.

I hereby certify that this bill (C. F. No. 34) originated in the council at this the twenty-sixth session of the legislative assembly.

CHAS. W. STAYNER,
Chief Clerk.

EXHIBIT B.

Copy of the second apportionment bill, the plan for which was suggested by Governor Murray, who promised to approve such a measure when passed by the legislative assembly. But the governor failed to either sign or veto the bill, and it thereby became worthless.

(H. F. 89.)

A BILL apportioning the legislative representation of the Territory of Utah.

SECTION 1. *Be it enacted by the governor and legislative assembly of the Territory of Utah*, That until otherwise provided by law, representative and council districts shall be and the same are hereby, formed, and representatives and councilors apportioned as follows:

REPRESENTATIVE DISTRICTS.

District No. 1.—Shall consist of Rich and Morgan Counties, and the precincts of Echo, Henneferville, Coalville, Upton, Hoytsville, Wanship, Parley's Park, Peoa, and Rockport, in Summit County, and be entitled to one representative.

District No. 2.—Shall consist of Park City and Kamas precincts, in Summit County, and all of Wasatch and Uintah Counties, and be entitled to one representative.

District No. 3.—Shall consist of the precincts of Hyde Park, Logan, Richmond, and Smithfield, in Cache County, and be entitled to one representative.

District No. 4.—Shall consist of the precincts of Benson, Clarkston, Hyrum, Lewiston, Mendon, Millville, Newton, Petersboro', Paradise, Providence, Trenton, and Wellsville, in Cache County, and be entitled to one representative.

District No. 5.—Shall consist of the precincts of Bear River City, Box Elder, Brigham City, Call's Fort, Deweyville, Malad, Mantua, Plymouth, Portage, Promontory, and Willard, in Box Elder County, and be entitled to one representative.

District No. 6.—Shall consist of the precincts of Curlew, Grouse Creek, Kelton, Park Valley, and Terrace, in Box Elder County, and all of Tooele County, and be entitled to one representative.

District No. 7.—Shall consist of the precincts of Ogden City, Lynne, and Riverdale, in Weber County, and be entitled to one representative.

District No. 8.—Shall consist of the precincts of Eden, Harrisville, Hooper, Huntsville, Marriott, North Ogden, Pleasant View, Plain City, Slatersville, Uintah, West Weber, and Wilson, in Weber County, and be entitled to one representative.

District No. 9.—Shall consist of Davis County and be entitled to one representative.

District No. 10.—Shall consist of the precincts No. 3 and No. 4, in Salt Lake County, and be entitled to one representative.

District No. 11.—Shall consist of the precinct No. 2, in Salt Lake County, and be entitled to one representative.

District No. 12.—Shall consist of precincts No. 1 and No. 5 in Salt Lake County, and be entitled to one representative.

District No. 13.—Shall consist of the precincts of Bingham, Brighton, Draper, Fort Harriman, Granger, North Jordan, Pleasant Green, Sandy, South Jordan, Union, and South Cottonwood, and all other precincts on the west side of Jordan River, in Salt Lake County, and be entitled to one representative.

District No. 14.—Shall consist of the precincts of Big Cottonwood, Butler, East Mill Creek, Farmers' Fort Douglas, Granite, Little Cottonwood, Mountain Dell, Mill Creek, Silver, Sugar House, and West Jordan, in Salt Lake County, and be entitled to one representative.

District No. 15.—Shall consist of the precincts of Lehi, American Fork, Alpine, Pleasant Grove, Cedar Fort, and Fairfield, in Utah County, and be entitled to one representative.

District No. 16.—Shall consist of the precincts of Provo, Springville, and Salem, in Utah County, and be entitled to one representative.

District No. 17.—Shall consist of the precincts of Spanish Fork, Payson, Spring Lake, Santaquin, Goshen, Benjamin, and Thistle Valley, in Utah County, and be entitled to one representative.

District No. 18.—Shall consist of the counties of Juab and Millard, and be entitled to one representative.

District No. 19.—Shall consist of the precincts of Thistle, Fairview, Mount Pleasant, Spring City, Moroni, and Fountain Green, in San Pete County, and be entitled to one representative.

District No. 20.—Shall consist of the precincts of Chester, Wales, Ephraim, Manti, Petty, Mayfield, Gunnison, Fayette, and Freedom, in San Pete County, and be entitled to one representative.

District No. 21.—Shall consist of the counties of Sevier and Pi Ute, and be entitled to one representative.

District No. 22.—Shall consist of the counties of Emery, Garfield, San Juan, and Kane, and be entitled to one representative.

District No. 23.—Shall consist of the counties of Beaver and Iron, and be entitled to one representative.

District No. 24.—Shall consist of the county of Washington, and be entitled to one representative.

SEC. 2—COUNCIL DISTRICTS.—District No. 1.—Shall consist of representative districts Nos. 1 and 2, and shall be entitled to one councilor.

District No. 2.—Shall consist of representative districts Nos. 3 and 4, and be entitled to one councilor.

District No. 3.—Shall consist of representative districts Nos. 5 and 6, and be entitled to one councilor.

District No. 4.—Shall consist of representative districts Nos. 7 and 8, and be entitled to one councilor.

District No. 5.—Shall consist of representative districts Nos. 9 and 10, and be entitled to one councilor.

District No. 6.—Shall consist of representative districts Nos. 11 and 12, and be entitled to one councilor.

District No. 7.—Shall consist of representative districts Nos. 13 and 14, and be entitled to one councilor.

District No. 8.—Shall consist of representative districts Nos. 15 and 16, and be entitled to one councilor.

District No. 9.—Shall consist of representative districts Nos. 17 and 18, and be entitled to one councilor.

District No. 10.—Shall consist of representative districts Nos. 19 and 20, and be entitled to one councilor.

District No. 11.—Shall consist of representative districts Nos. 21 and 22, and be entitled to one councilor.

District No. 12.—Shall consist of representative districts Nos. 23 and 24, and be entitled to one councilor.

SEC. 3. The judges of election, in their respective precincts, shall, immediately after the completion of the canvass, as provided in section 17, of chapter XII, Laws of Utah, 1878, make out a list in triplicate, of the names of the persons voted for, and the number of votes each has received for councilor or representative, as the case may be, and certify to the same, one of which shall be filed with the presiding judge; one shall be forwarded to the county clerk of the county in which such precinct is situated, and one to the secretary of the Territory, in an envelope securely sealed and plainly marked "Election returns from ——— precinct, ——— county" (filed in the name of the precinct and county).

SEC. 4. The secretary of the Territory and the respective county clerks of the counties of Weber, Davis, Salt Lake, and Utah are hereby appointed a canvassing board, which board, or majority of them, shall, between the 13th and 16th days after the election, unseal the envelopes, canvass the election returns contained therein, and within ten days thereafter make out and transmit a certificate signed by each of the members of said board to each councilor and representative elected.

O

48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 48.

RECORDS

OF

THE CHIEF SUPERVISOR OF ELECTIONS

FOR THE NORTHERN DISTRICT OF MISSISSIPPI.

DISTRICT NO. 2, 1882.

APRIL 16, 1884.—Referred to the Committee on Elections and ordered to be printed.

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SUPERVISORS' RETURNS, MARSHALL COUNTY.

BAINESVILLE BOX.

Supervisors appointed: W. A. Hampson; J. B. Blackwell.

Official returns of W. A. Hampson, as follows, to wit:

Whole number of votes polled for Jas. R. Chalmers	173
Whole number of votes polled for Van H. Manning	60
Whole number of votes polled for H. C. Carter	1
	234

Official returns of J. B. Blackwell, as follows, to wit:

The clerks of election counted and returned the votes as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	173
Whole number of votes rec'd by Van H. Manning	63
Whole number of votes rec'd by H. C. Carter	1
	237

Discrepancy in the two returns of three votes. No explanation given by the U. S. supervisor, W. A. Hampson.

The following persons applied to vote, but were refused:

J. Coopwood, reasons assigned for refusing to receive the vote, as follows, to wit: He was registered as Jordan Coopwood. This rule was soon after violated by receiv-

ing the vote of J. Y. Williams, who was registered J. T. Williams. The vote of Tom. Linderman was received notwithstanding he had lived out of the election district for one month.

His washing was done in the district.

R. H. Hurst's vote was rec'd by the judges. He was at work at Byhalia at the time of voting, but claimed Bainesville as his home.

The following persons were registered by proxy, who applied and voted: J. W. Robertson and J. B. Reynolds.

EVANS' SCHOOL-HOUSE BOX.

Supervisors appointed: J. D. Mintz, Ind.; G. H. Sullivan, Dem.

J. Mintz' official returns:

Whole number of votes rec'd by Jas. R. Chalmers	67
Whole number of votes rec'd by Van H. Manning	33
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	102

G. H. Sullivan's official returns:

Whole number of votes rec'd by J. R. Chalmers	67
Whole number of votes rec'd by Van H. Manning	33
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	102

The returns of the officers of election coincide with the above returns.

Mintz and Sullivan both report a perfectly fair election, and no attempt to bulldoze, intimidate, or otherwise interfere with a fair vote.

WATERFORD BOX.

Supervisors appointed: W. G. Ford, Ind.; Andrew Balfour, Dem.

W. G. Ford's official returns:

Whole number of votes rec'd by Jas. R. Chalmers	131
Whole number of votes rec'd by Van H. Manning	61
Whole number of votes rec'd by H. C. Carter	3
Whole number of votes polled at box	195

Ford reports a fair election and no fraud attempted.

Andrew Balfour's official return:

Whole number of votes polled for Jas. R. Chalmers	131
Whole number of votes polled for Van H. Manning	61
Whole number of votes polled for H. C. Carter	3
Whole number of votes polled at box	195

Balfour reports a fair election and no fraud attempted.

The officers of the election report as above.

EARLY GROVE BOX.

Supervisors appointed: Dr. A. M. Lyles, G. B.; R. A. Baird, Dem.

Official returns of Dr. A. M. Lyles, as follows, to wit:

Whole number of votes rec'd by Jas. H. Chalmers	74
Whole number of votes rec'd by Van H. Manning	43
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	117

Official returns of R. A. Baird, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	74
Whole number of votes rec'd by Van H. Manning	43
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	117

The vote, as returned by officers of election, coincides with the returns of supervisors.

A fair election reported by both supervisors.

OAK GROVE BOX.

Supervisors appointed: Ed. Aldrich, G. B.; B. A. Stewart, Dem.

Ed. Aldrich's official returns, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	43
Whole number of votes rec'd by Van H. Manning	21
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	64

B. A. Stewart's official returns, as follows, to wit: I received no commission to act as supervisor before election; Mr Ed. Aldrich was the only supervisor here at this box.

The report of the officers of election at this box coincide with reports of supervisors.

A fair election reported by the supervisors.

LAW'S HILL BOX.

Supervisors appointed: J. A. Austin, G. B.; E. L. Miller, Dem.

Official returns of J. A. Austin, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	65
Whole number of votes rec'd by Van H. Manning	46
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	111

Official returns of E. L. Miller, as follows, to wit: No returns received.

The vote as returned by the officers of election coincide with the supervisors' report.

A fair election reported by supervisors.

WATSON BOX.

Supervisors appointed: J. A. Maxwell, G. B.; Harvey Nichols, Dem.

J. A. Maxwell's official returns, as follows, to wit:

Whole number of votes rec'd by Jas. R Chalmers	154
Whole number of votes rec'd by Van H. Manning	61
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	216

Harvey Nichols' official returns, as follows, to wit: No returns received.

The vote as reported by the officers of the election coincide with the supervisors' returns.

A fair election reported by supervisors.

WALL HILL BOX.

Supervisors appointed: J. T. Eason, G. B.; J. W. Sharp, Dem.

Official retrrns of J. T. Eason, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	180
Whole number of votes rec'd by Van. H. Manning	99
Whole number of votes rec'd by H. C. Carter	4
Whole number of votes polled at box	283

Official returns of J. W. Sharp, as follows, to wit: No returns received.

The vote as returned by the supervisors of the election tally with the commissioners of election return.

A fair election reported by the supervisors.

HUDSONVILLE BOX.

Supervisors appointed: J. L. Mitchell, G. B.; John Bowers, Dem.

Official returns of J. L. Mitchell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	133
Whole number of votes rec'd by Van. H. Manning	67
Whole number of votes rec'd by H. C. Carter	5
Whole number of votes polled at box	205

Official returns of John Bowers, as follows, to wit: No returns received.

The vote as returned by the officers of election coincide with returns of the supervisors.

A fair election reported by the supervisors.

MOUNT PLEASANT BOX.

Supervisors appointed: Jno. W. Robinson, G. B.; T. B. Luck, Dem.

Official returns of J. W. Robinson, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	178
Whole number of votes rec'd by Van H. Manning	115
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	293

Official returns of T. B. Luck, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	178
Whole number of votes rec'd by Van H. Manning	115
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	293

The vote as returned by the officers of the election coincide with the report of the supervisors.

A fair election reported by the supervisors.

CHULAHOMA BOX.

Supervisors appointed: R. H. Peel, G. B.; F. M. Wilkins, Dem.

Official returns of R. R. H. Peel, as follows, to wit:

Whole number of votes rec'd by James R. Chalmers	330
Whole number of votes rec'd by Van H. Manning	78
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	410

Official returns of F. M. Wilkins, as follows, to wit: I was taken suddenly sick and cannot give the number of votes polled; it was something over four hundred.

The vote as reported by the officers of the election, when the polls closed, was announced as reported by Supervisor R. H. Peel.

A fair vote and count reported by supervisors.

Supervisor R. H. Peel made the following report, to wit:

The polls were opened promptly at 9 o'clock on the 7th day of November, 1882, at the Chulahoma precinct, Marshall County, Miss., and the election proceeded as the law directed, quietly and without disturbance of any kind, until the ballots were counted, and nothing remained to be done but sign and certify to the returns, and lock and seal the box. I then noticed that there was an evident inclination on the part of the judges and clerks to delay this duty, and I insisted upon its being done at once. I was at the time standing beside the small table with my elbow resting upon the box, and looking over my own tally-sheet, when, in a moment, I noticed that the lamp and candle on the table occupied by the clerks, were blown out, and that the clerks had disappeared with the tally-sheets, and list of names of voters. I also found that the judges had disappeared, and believing that their purpose was to extinguish the candle on the table where I stood, and steal the box in the darkness and confusion, I seized the candle with one hand and the box with the other, and called for the deputy United States marshal, who made his appearance immediately.

I then demanded the return of the judges, and after some twenty or thirty minutes they all did return, the clerks bringing the tally-sheets, but failed or refused to give any reason for their action. I then examined the tally-sheets, and found that they did not correspond with each other nor with my own, evidently an intentional wrong on their part, so I demanded a recount of the vote, and found at the close of the second count that their tally-sheet and mine corresponded exactly, and the votes stood, for Chalmers 330, for Manning 78, for Carter 2; making a total of 410, the exact number of votes polled, and giving Chalmers a majority of 252 votes over Manning at this box. I again demanded that the tally-sheets be signed by the proper officers of the election and placed in the box, and the clerks signed in my presence. One of the judges then took the tally-sheets as if to sign them, and after a few minutes returned them to the box *folded*, saying they were signed and certified all right. The box was then taken by one of the judges, W. N. Alexander, to the house of his uncle, J. H. Alexander, and I followed it until placed upon the end of a sofa in a bed-room where we were to remain with it until morning.

I laid down upon the only bed in the room beside W. N. Alexander (who was to remain with me and the box, M. F. Wilkin the other supervisor having taken suddenly ill and gone home before the lights were blown out, after the first fist count of the ballots). In this position I remained and watched the box until the first dawn of day could be seen through the open windows, when, being exceedingly wearied with remaining so long in one position, I turned over with my face away from the box perhaps twenty minutes, when I concluded to get up, and make ready for an early start to Holly Springs, where the box should be delivered to the county commissioners. In a moment I discovered that the box had been removed, and was not in the room. I demanded it of W. N. Alexander, who was still in bed, but answered lazily, and without even opening his eyes or moving. I think he knew nothing about the box. I left the house at once, and hurriedly started for Holly Springs, telling two of those whom I believed had been engaged in the theft that they would hear from me soon, unless the box came up all right, and at once. The box did come to the hands of the commissioners soon after I reached Holly Springs, brought in by W. N. Alexander and J. H. Alexander, the latter having since confessed that he and John McLaughlin, one of the clerks of election, stole the box from the room during the few minutes that my back was turned.

The judges of the election were W. N. Alexander, Clinton Totten, and a negro, named George Rankins, who was in open sympathy with the others. The clerks were John McLaughlin and John Harris; James Fraser was U. S. deputy marshal. Henry McLaughlin fanned out the lights on the clerk's table as I can prove, and C. M. Dean was only prevented from extinguishing the only other light remaining in the room by being held back by one Dunlap, who was acting as marshal at the time.

At about 5 o'clock on day of election, I was taken with violent paroxysm of the stomach, which disqualified me from farther business in the election. I informed Dr. R. H. Peel of my condition, though with much pain remained in the room, until the votes were counted, strung, and put back into the box. I handed Dr. Peel my blank book with the names, with all who voted or refused to vote, with explanations; asked him to place it in the box, and told him I was unable to stay with the box, and left immediately for home. Up to that time I did not see anything in the management of the election that I thought was illegal; what transpired afterward I do not know; I cannot give the number of votes polled; something over four hundred. Dr. R. H. Peel's register book and mine tallied. Did not get over in time to look over registration book. I have full confidence in Dr. Peel's veracity; consider him high toned and honorable.

EAST HOLLY SPRINGS BOX.

Supervisors appointed, W. A. Roberts, G. B.; G. J. Finley, Dem.

Official returns of W. A. Roberts, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	203
Whole number of votes rec'd by Van H. Manning	240
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	443

Official returns of G. J. Finley, as follows, to wit: No returns received.

The report of the officers of the election at this box is same as reported by supervisors.

A fair election reported by the supervisor.

Supervisor W. A. Roberts reports as follows, to wit:

"Bob Wall voted in surveyor's box for Congressman, against protest of supervisor; the vote was put in by Inspector Bennett. G. A. Palm (white) moved nine or ten months ago nine miles northwest of town, and should have voted at Hudsonville; brought counsel, Judge Stith, who said he had a right to vote, and voted against the protest of supervisor. Gordon Jeffries' (col'd) case, same as Palm's, moved across the line six months ago to East Box, registered at West Box, was not allowed to vote, and also refused a vote at West Box. Columbus Rucker transferred to Waterford precinct; he knew nothing of the transfer; he lives in this election precinct; was registered and voted in this precinct last election; he has not moved out of this precinct; was not allowed to vote.

"Charles Taylor and Bob Cooper not registered."

Supervisor W. A. Roberts states further, as follows, to wit:

"I hereby submit the following report of the election held at the East Holly Springs Box, on Tuesday, the 7th day of Nov'r, 1882, for a Representative in the lower House of 48th Congress of the United States. The polls were opened promptly at 9 o'clock a. m., with the following officers representing the State: Inspectors were Dick Bennett, Jno. R. McCarrall, and Jim Johnson (col'd); the clerks were Harry Walters & Joe Howard, with Deputy Sheriff J. C. Boxley for peace officer. The day passed off quietly, with a few

irregularities, which I have formally reported with my returns. The polls were closed at 6 o'clock p. m., and everything made ready for counting the votes, when I requested that Jas. A. Matthews, the Deputy U. S. marshal, be allowed to come in the room to assist me in watching, and keeping a correct tally with the clerks, as the said Jim Johnson, appointed by the State to represent the Independents, was a ignorant negro, who could neither read or write, and was in sympathy with the Democratic party, and has always claimed to be a Democrat, as was shown by his ballot, he voting for Van H. Manning. Johnson remarked that he would rather Mr. Matthews would come in than not; that he could not read or write, and he wanted everything done fair. I then asked Johnson what he was doing here if he could read or write. He said that they told him if he did not serve he would have to pay one hundred dollars, and not having that much money he thought he had better serve. Inspector Bennett, who seemed to be spokesman, came forward and said positively that Matthews should not come in the room. I then told Mr. Matthews to show his authority and commission, which he proceeded to do. This was not regarded, and Matthews was not allowed to enter the room. They finally consented to allow Mr. Matthews to stand at the door, where he kept tally with the count until completed, with the result as reported in my returns. The colored inspector Johnson absented himself before the count commenced, and did not return until we were more than half through counting the votes. I was present when the county commissioners canvassed the returns for the county; when they (commissioners) opened the East Holly Springs box, there was nothing whatever in it but a lot of tickets. No poll-book, tally sheet, or returns was in the box. Why they were not in the box, where they should have been, I am unable to state."

WEST HOLLY SPRINGS BOX.

Supervisors appointed: Jno S. Burton, Rep.; Jno. H. McClatchey, Dem.

Official returns of Jno. H. McClatchey, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	266
Whole number of votes rec'd by Van H. Manning	164
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	430

Official returns of Jno. S. Burton, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	266
Whole number of votes rec'd by Van H. Manning	164
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	430

The vote as returned by the officers of the election coincide with the report made by the supervisors.

A quiet election, and no disturbance reported.

Supervisor Jno. S. Burton makes the following report, to wit:

"In pursuance of my duty as supervisor I went to West Holly precinct and found that there had been appointed three (3) inspectors by the State authorities, neither of whom were present. Their names were W. O. Cochran, J. T. McKinney, and Scott McKissack. I found other gentlemen who were expecting to act as inspectors, and who, at my request, were sworn to act by the circuit clerk. The election commenced a few minutes after 9 o'clock and closed at 6 o'clock. This returns shows four hundred and thirty votes polled, but there was 437 votes polled, but several of the voters did not vote for Congressmen, but only voted for surveyor, there being a candidate for that office, and several voters who did vote for Congress were thrown out on account of two tickets (Congress and surveyor) being rolled one in the other. Several voters who were registered were denied the right to vote on one and another pretext. These voters are personally known to me as Republicans, and were on that account, I believe, denied their right to vote."

RED BANKS BOX.

Supervisors appointed: J. W. Moore, Repl.; A. E. Cook, Dem.

Official returns of J. W. Moore, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	125
Whole number of votes rec'd by Van H. Manning	70
Whole number of votes rec'd by H. C. Carter	5
Whole number of votes polled at box	200

Official returns of A. E. Cook, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	125
Whole number of votes rec'd by Van H. Manning	70
Whole number of votes rec'd by H. C. Carter	5
Whole number of votes polled at box	200

The vote as reported by the officers of the election coincide with the report of supervisors.

A fair election, and no disturbance reported by the supervisors.

BETHLEHEM BOX.

Supervisors appointed: G. F. Byrd, G. B.; C. M. Alvis, Dem.

Official returns of G. F. Byrd, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	87
Whole number of notes rec'd by Van H. Manning	82
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	169

Official returns of C. M. Alvis, as follows, to wit: No returns received.

The vote as reported by the officers of election coincide with the returns of the supervisors.

A fair election and free ballot reported.

CHEWALLA BOX.

Supervisors appointed: Chas. N. Powell, A. S. Stewart.

Official returns of Chas. N. Powell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	103
Whole number of votes rec'd by Van H. Manning	53
Whole number of vote rec'd by H. C. Carter	00
Whole number of votes polled at box	156

Official returns of A. S. Stewart, as follows, to wit: No returns received.

The report of the commissioners of election coincide with the supervisors' returns.

No disturbance reported.

Supervisor C. N. Powell makes the following report, to wit: The following-named voters were refused the privilege of voting: Jim Wells (col'd), name not on the book; Wm. Stricklin said he applied to the clerk to register, was told it was all right, but his name was not on the book; Lauford Price applied to the clerk, was told he was registered, but his name was not on the book; W. A. Evans, No. 36 on the list I send you, has been raised in the county, has voted at Chewalla for several years; his name is J. A. Evans, and by some means his initials had been changed; T. L. Lesur was refused, as his name on the book was T. D. Leseur; A. C. Dickinson was refused after having voted for the last twelve years, as the judges decided that the name was H. C. Dickinson; Mike Thomas was refused, as he had a certificate from Gwims and Millen, county commissioners, stating he had applied to the clerk during court, but the clerk was too busy to register him. I did not put but one name of the refused on the list of voters that I return, and as it appears the list (No. 36) ought to be J. A. Evans.

BYHALIA BOX.

Supervisors appointed: R. J. Lyles, S. W. Benson.

Official returns of R. J. Lyles, as follows, to wit: No election held here on account of the arrest of John H. Watson, who was one of the inspectors for this precinct, Mr. Dave Flenn refusing to hold an election as inspector unless Mr. Watson was permitted to serve as inspector.

Official returns of S. W. Benson, as follows, to wit: As one of the U. S. supervisors at this place, I beg leave to make the following report: On the morning of the 7th (election day) the officers of election all met, and one of the officers of election (Jno. H. Watson) was arrested by Mr. Hardy, a U. S. deputy marshal, in consequence of which we had no election.

TATE COUNTY.

POAGVILLE BOX.

Supervisors appointed: T. B. Echles, G. B.; H. W. Walker, Dem.

Official returns of T. B. Echles, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	130
Whole number of votes rec'd by Van H. Manning	92
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	222

Official returns of H. W. Walker, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	130
Whole number of votes rec'd by Van H. Manning	92
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	222

The vote as reported by the officers of election coincide with report of supervisors No disturbance reported; a quiet election.

STRAYHORN BOX.

Supervisors appointed: M. A. Rainey, R. A. Combs.

Official returns of M. A. Rainey, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	54
Whole number of votes rec'd by Van H. Manning	166
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	220

Official returns of R. A. McCombs, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	54
Whole number of votes rec'd by Van H. Manning	166
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	220

Supervisor Rainey reports there were two hundred and twenty votes in the box; only two hundred and nineteen voted.

J. W. Tate, U. S. supervisor, Senatobia, reports violations at this box.

TAYLOR'S BOX.

Supervisors appointed: J. J. Haynes, Jno. A. Bunn.

Official returns of J. J. Haynes, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	126
Whole number of votes rec'd by Van H. Manning	52
Whole number of votes rec'd by H. C. Carter	00
	178

Official returns of Jno. A. Bunn, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	126
Whole number of votes rec'd by Van H. Manning	52
Whole number of votes rec'd by H. C. Carter	00
	178

The reports of the clerks of election tally with supervisors' report. The election was conducted apparently with fairness and harmony.

The following persons were rejected, for the reasons, viz: Ellick Ward, name not found on registration book; Henny, name not on book; Ellis Dooley, for being charged with felony by the judges; E. C. White, for attempting fraud by folding three tickets presented to the judges.

TYRO BOX.

Supervisors appointed: L. G. Barnett, S. L. Johnson.

Official returns of S. L. Johnson, as follows, to wit:

Whole number of votes rec'd by James R. Chalmers	76
Whole number of votes rec'd by Van H. Manning	88
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	164

Official returns of L. G. Barnett, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	76
Whole number of votes rec'd by Van H. Manning	88
Whole number of votes rec'd by H. C. Carter	00
	164

The report of the officers of the election coincide with the returns of the supervisors. A fair election reported by the supervisors, and no disturbance.

INDEPENDENCE BOX.

Supervisors appointed: E. E. Eason, J. H. Bridges.

Official returns of E. E. Eason, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	140
Whole number of votes rec'd by Van H. Manning	115
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	255

Official returns of J. H. Bridges, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	140
Whole number of votes rec'd by Van H. Manning	115
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	255

The report of the officers of the election coincide with the returns of the supervisors. No violation of the law reported.

COLDWATER BOX.

Supervisors appointed: W. B. Sloan, Josiah Dailey.

Official returns of W. B. Sloan, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	187
Whole number of votes received by Van H. Manning	118
Whole number of votes received by H. C. Carter	000
Whole number of votes polled at box	305

Official returns of Josiah Dailey, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	187
Whole number of votes received by Van H. Manning	118
Whole number of votes received by H. C. Carter	000
Whole number of votes polled at box	305

The following persons were rejected, with reason assigned: Vinson Johnson, marked voted and challenged, illegal registration; Joe Craig, marked voted and challenged, illegal registration; Essex Jeter, marked voted and challenged, under age; Alford Richards, name erased from registration book, and marked removed; Wm. Pitman, marked voted, known by some as Jim P.; Lewis Williams, marked voted, said to be illegal registration; Jordan Hulbert, marked voted, said to be illegal registration; Dick Boyd, rejected by judges, non-resident; Alf. Harrington, marked voted, under age and improper registration; Adam Webster, marked voted, improper registration; J. H. Craddock, rejected by judges, name erased, and marked moved; Joe Dowdy, rejected, name not found on registration books; D. B. Bezby, marked voted, improper registration; Alex. Tate, marked voted, improper registration and felon; J. J. Parker, rejected, lives out of beat; Jack Wilson, rejected, name not found on registration books; Green Fleming, marked voted, improper registration.

Everything reported quiet, and a peaceable election and in accordance with the law, by the supervisors of election.

THYATIRA BOX.

Supervisors appointed: D. G. Campbell, J. T. Wilburn.

Official returns of D. G. Campbell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	55
Whole number of votes rec'd by Van H. Manning	101
Whole numbers of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	157

Official returns of J. T. Wilburn as follows, to wit: No returns received.
The report of the officers of the election coincides with the returns of supervisors.
No disturbance or violation of the law reported.

SHERROD'S BOX.

Supervisors appointed: W. C. Smith, C. A. Grayson.

Official returns of W. C. Smith, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	175
Whole number of votes rec'd by Van H. Manning	69
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	244

Official returns of C. A. Grayson, as follows, to wit: No returns received.
The report of the commissioners of election coincide with the returns of supervisors.
No violations of the law reported.

LOOXAHOMA BOX.

Supervisors appointed: Sims Thomas, J. C. Still.

Official returns of Sims Thomas as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	157
Whole number of votes rec'd by Van H. Manning	65
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	223

Official returns of J. C Still, as follows, to wit: No returns received.
The report of the commissioners of election coincide with returns of supervisors.
No violation of the law reported.

ARKABUTLA BOX.

Supervisors appointed: S. W. Conger, J. C. Singleton.

Official returns of S. W. Conger as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	60
Whole number of votes rec'd by Van H. Manning	82
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	143

Official returns of J. C. Singleton, as follows, to wit: No returns received.
Supervisor Conger reports Gousby J. as having voted, his name supposed to be on poll-book, but spelled Gauldsberry, and Goosby Berry voted, name appearing on poll-book Gauldsberry.
No disturbance reported.

PALESTINE BOX.

Supervisors appointed: J. L. Smart, J. J. Kirby.

Official returns of J. L. Smart, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	43
Whole number of votes rec'd by Van H. Manning	59
Whole number of votes rec'd by H. C. Carter	3
Whole number of votes polled at box	105

Official returns of J. J. Kirby, as follows, to wit:

Whole number of votes rec'd by J. R. Chalmers	43
Whole number of votes rec'd by Van H. Manning	59
Whole number of votes received by H. C. Carter	3
Whole number of votes polled at box	105

Supervisor Smart reports vote of county as follows, to wit:

Van H. Manning	1,166
Jas. R. Chalmers	1,472
H. C. Carter	3
	2,641

Supervisors appointed: J. L. Smart, J. J. Kirby.

Supervisor Kirby reports vote of county as follows, to wit:

Van H. Manning	1,166
Jas. R. Chalmers	1,472
H. C. Carter	3
	2,641

No irregularities or disturbance reported by the supervisors.

Official returns of J. L. Smart, as follows, to wit: No returns received.

No report of the vote at Palestine box from either of the supervisors.

SENATOBIA BOX.

Supervisors appointed: James W. Tate, W. E. Still.

Official returns of J. W. Tate, as follows, to wit:

Number of votes rec'd in the county by J. R. Chalmers	1,472
Number of votes rec'd in the county by Van H. Manning	1,166
Number of votes rec'd in the county by H. C. Carter	3
	2,641

Official returns of W. E. Still, as follows, to wit:

Number of votes rec'd in county by Jas. R. Chalmers	1,472
Number of votes rec'd in county by Van H. Manning	1,166
Number of votes received in county by H. C. Carter	3
	2,641

Supervisor Still reports no irregularities, save a slight misunderstanding at the Strayhorn precinct, which was satisfactorily arranged, and had no weight nor figure in the election.

No separate returns for the Senatobia box reported.

EVANSVILLE BOX.

Supervisors appointed: K. D. Howell, C. B. Best.

Official returns of K. D. Howell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	4
Whole number of votes rec'd by Van H. Manning	19
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	23

Official returns of C. B. Best, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	4
Whole number of votes rec'd by Van H. Manning	19
Whole number of votes rec'd by H. C. Carter	00
Whole number of votee polled at box	23

The report of commissioners of election coincide with returns of supervisors.

No disturbance or irregularities reported.

PANOLA COUNTY.

KNIGHT'S FERRY BOX.

Supervisors appointed: Jas. A. Head, Robt. Martin.

Official returns of Jas. A. Head, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	15
Whole number of votes rec'd by Van H. Manning	00
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	15

Official returns of Robt. Martin, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	15
Whole number of votes rec'd by Van H. Manning	00
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	15

The report of commissioners of election coincides with the returns of supervisors.
No disturbance or irregularities reported.

COMO BOX.

Supervisors appointed: Jesse A. Flautt, J. P. Wallace.

Official returns of Jesse A. Flautt, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	383
Whole number of votes rec'd by Van H. Manning	112
Whole number of votes rec'd by H. C. Carter	41
Whole number of votes polled at box	536

Official returns of J. P. Wallace, as follows, to wit: No returns rec'd.

The report of the commissioners of election coincides with the supervisors' returns.
Lewis Jones, William Lee, Wm. Carry, Gid. Hightower, and Hicks Halcomb were refused on account of their names not being on the registry book. When questioned they all said they would have voted for J. R. Chalmers.
No disturbance or irregularities reported.

EUREKA SPRINGS BOX.

Supervisors appointed: J. M. D. Bell, W. P. Watkins.

Official return of J. M. D. Bell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	142
Whole number of votes rec'd by Van H. Manning	51
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes rec'd at box	193

Official returns of W. P. Watkins, as follows, to wit: No returns received.

The report of the commissioners of election coincides with the returns of supervisors.
No disturbance reported.

WILLIAMSON'S SCHOOL-HOUSE BOX.

Supervisors appointed: J. H. Simpson, N. C. Knox.

Official returns of J. H. Simpson as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	53
Whole number of votes rec'd by Van H. Manning	25
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	78

Official returns of N. C. Knox, as follows, to wit: No returns received.
The report of the commissioners of election coincide with the supervisors' returns.
Hiram Morgan voted as Lewis.
A fair election, and no irregularities reported.

PLEASANT GROVE BOX.

Supervisors appointed: J. W. Gillespie, H. H. Parnell.

Official returns of J. W. Gillespie, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	196
Whole number of votes rec'd by Van. H. Manning	79
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	275

Official returns of H. H. Parnell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	196
Whole number of votes rec'd by Van H. Manning	79
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	275

The report of the commissioners of election coincide with the supervisors' returns. No irregularities or disturbance reported.

BATESVILLE BOX.

Supervisors appointed: J. C. Armstrong, R. M. Kyle.

Official returns of J. C. Armstrong, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	459
Whole number of votes rec'd by Van H. Manning	111
Whole number of votes rec'd by H. C. Carter	3
Whole number of votes polled at box	573

Official returns of R. M. Kyle, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	459
Whole number of votes rec'd by Van H. Manning	111
Whole number of votes rec'd by H. C. Carter	3
Whole number of votes polled at box	573

The report of the commissioners of election coincides with the supervisors' returns. No disturbance reported.

M. F. Wilson, registered in Sardis, transferred to that box; George Jones tried to vote two tickets.

1st. M. F. Wilson, who was allowed to vote at this precinct yesterday, does not live in this election precinct, but lives in the Sardis precinct of this county, had moved out of this into Sardis precinct a month or more before the day of the election.

2d. Edwin Elliott was not allowed to vote, whose name was on our books, but election judges refused to allow him to vote.

3d. Henry Bates was not allowed to vote because his name appeared as H. M. Bates, and he claimed his name was Henry M. Bates, well known to everybody as the proper person, refused to vote by judges.

4th. J. J. Johnson, who claimed his name was Joe Johnson, and also claimed his name was Joe J. Johnson, but because he did not tell at first he had two initials the judges refused to allow him to vote.

No. 1, voted for Manning, I suppose.

Nos. 2, 3, and 4 were not allowed to vote.

The above is the report of Supervisor R. M. Kyle.

POPE'S STATION BOX.

Supervisors appointed: Ira C. Hale, L. P. Pipkins.

Official returns of Ira C. Hale, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	124
Whole number of votes rec'd by Van H. Manning	75
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	199

Official returns of L. P. Pipkins, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	124
Whole number of votes rec'd by Van H. Manning	75
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	199

The report of the commissioners of the election coincides with supervisor's returns.
The management and conduct of the election reported fair and in accordance with the law.
Joseph Tolbert rejected, mistake in registering name.
Martin Smith rejected, name not found.
Lewis Butler rejected, name not found.
Robt. Hyland rejected, name not found.
Ben Miller rejected, name not found on book.
Andy Bradford rejected, name not found on poll-book.
Tom Allen rejected, name not found on poll-book.
The above is the report of Supervisor Ira C. Hale.
Isaac Smith, colored, living in beat 5, was allowed to vote.
E. C. Maxwell, living in beat 4, was allowed to vote.
Soll Talbert, col'd, voted as Joe Tolbert, and Joe did not vote.
Louis Butler, col,d, Martin Smith, col'd, Bob Hillard, white, J. T. Morris, white, and Andy Bradford, col'd, was not registered, and not allowed to vote.
Isaac McDonald, colored, voted as Isaac McDaniels.
The above is the report of L. P. Pipkins.

LONGTOWN BOX.

Supervisors appointed: J. O. Askew, R. W. Bailey.

Official returns of J. O. Askew as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	159
Whole number of votes rec'd by Van H. Manning	101
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	261

Official returns of R. W. Bailey as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	159
Whole number of votes rec'd by Van H. Manning	101
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	261

The report of the commissioners of election coincide with the supervisors' returns.
Mat. Downs not allowed to vote because the name was spelled Mat. Davis.
No irregularities or disturbance reported.

PLEASANT MOUNT BOX.

Supervisors appointed: D. K. Furguson, W. E. McGhee.

Official returns by D. K. Furguson as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	172
Whole number of votes rec'd by Van H. Manning	87
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	261

Official returns of W. E. McGhee as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	172
Whole number of votes rec'd by Van H. Manning	87
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	261

The report of the commissioners of election coincide with the supervisors' returns.
No disturbance reported.
Supervisor D. K. Furguson makes the following report, to wit:
"There were seven more votes in the box than there were names upon the lists kept by the clerks. I do not believe there were more votes in the box than belonged there; believe the error was all on the part of clerks."
Supervisor W. E. McGhee makes the following report, to wit:
"Owing to an imperfect list of voters furnished, I was not able to keep a list correctly, hence I can make no supr. return.
"We find after taking the count that there are seven more votes in the box than were shown by the clerks' list. The inspectors, clerks, and peace-officers have so reported to the county commissioners."

SPRINGPORT BOX.

Supervisors appointed: H. L. Petrea; J. T. Harmon.

Official returns of H. L. Petrea as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	89
Whole number of votes rec'd by Van H. Manning	33
Whole number of votes rec'd by H. C. Manning	3
Whole number of votes polled at box	125

Official returns of J. T. Harmon as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	89
Whole number of votes rec'd by Van H. Manning	33
Whole number of votes rec'd by H. C. Carter	3
Whole number of votes polled at box	125

The report of the commissioners of election coincide with the returns of the supervisors. No. 33, W. B. Pollard, was not allowed to vote, not being registered for this precinct; No. 107, Edward Jones, was not allowed to vote, not being in the beat proper length of time.

No irregularities or disturbance reported.

SARDIS BOX.

Supervisors appointed: S. R. Blaun; A. F. Minor.

Official returns of S. R. Blaun as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	375
Whole number of votes rec'd by Van H. Manning	168
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	545

Official returns of A. F. Minor as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	375
Whole number of votes rec'd by Van H. Manning	168
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	545

The report of the commissioners of the election coincide with the supervisors' returns.

No irregularities or disturbance reported.

BENSON'S MILL BOX.

Supervisors appointed: N. J. Benson, J. L. Knox.

Official returns of N. J. Benson as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	122
Whole number of votes rec'd by Van H. Manning	40
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	162

Official returns of J. L. Knox as follows, to wit: No returns received.

The report of the commissioners of election coincide with the supervisors' returns.

Everything reported orderly and quiet.

Supervisor Benson makes the following report, to wit:

"The law fully complied with, except the 'special notice,' requiring voters to hold their tickets in their hands until it was discovered that their names was registered, &c. This law was not complied with, but I do know that there was no fraud. Green Vaughan was not allowed to vote, not producing governor's pardon, &c. The election was orderly and very quiet, no excitement, and but little interest manifested; a small vote polled.

"No other supervisor at the polls, Capt. Knox not living in this voting district.

"Judges and clerks of the election would not carry the ballot-box to the county site, so I had to carry it; commissioners of election examined box, and was satisfied with the action of what I had done, but complained of the judges, &c."

La Fayette County.

FREE SPRINGS BOX.

Supervisors appointed: Daniel Avaut, Green Cane.

Official returns of Daniel Avaut, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	26
Whole number of votes rec'd by Van H. Manning	49
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	75

Official returns of Green Cane, as follows, to wit: No returns received.
The report of the commissioners of the election coincide with supervisors' returns.
No disturbance reported.

OXFORD NORTH BOX.

Supervisors appointed: S. M. Howery, Thos. Kendall.

Official returns of S. M. Howry, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	279
Whole number of votes rec'd by Van H. Manning	192
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	471

Official returns of Thos. Kendall, as follows, to wit: No returns received.
The report of commissioners of election coincide with supervisors' returns.
No disturbance; a free ballot and fair count reported.

OXFORD SOUTH BOX.

Supervisors appointed: W. G. Beauland, Quitman Williams.

Official returns of W. G. Beanland, as follows, to wit:

Whole number of votes rec'd by Jas R. Chalmers	217
Whole number of votes rec'd by Van H. Manning	155
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	372

Official returns of Quitman Williams, as follows, to wit: No returns received.
The report of the commissioners of the election coincide with supervisors' returns.
No disturbance; a free ballot and fair count reported.

ALEXANDER'S STORE BOX.

Supervisors appointed: E. T. Rushing, J. A. Montgomery.

Official returns of E. T. Rushing, as follows to wit:

Whole number of votes rec'd by Jas. R. Chalmers	124
Whole number of votes rec'd by Van H. Manning	99
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	223

Officials returns of J. A. Montgomery, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	124
Whole number of votes rec'd by Van H. Manning	99
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	223

The report of commissioners of the election coincide with supervisors' returns.
No disturbance reported.

COLLEGE HILL BOX.

Supervisors appointed: Mack Avant, R. L. Moss.

Official returns of Mack Avant, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	300
Whole number of votes rec'd by Van H. Manning	68
Whole number of votes received by H. C. Carter	00
Whole number of votes polled at box	368

Official returns of R. L. Moss, as follows:

Whole number of votes rec'd by Jas. R. Chalmers	300
Whole number of votes rec'd by Van H. Manning	68
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	368

The report of the commissioners of election coincide with the supervisors' returns. No disturbance or irregularities reported.

DE LAY'S BOX.

Supervisors appointed: Fielder Webster, S. E. Ragland.

Official returns of Fielder Webster, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	44
Whole number of votes rec'd by Van H. Manning	34
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	78

Official returns of S. E. Ragland, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	44
Whole number of votes rec'd by Van H. Manning	34
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	78

The report of the commissioners of election coincide with the supervisors' returns. No irregularities or disturbance reported.

TAYLOR'S DEPOT BOX.

Supervisors appointed: J. A. Browning, sr., G. B., W. T. Morrison, Dem.

Official returns of J. A. Browning, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	151
Whole number of votes rec'd by Van H. Manning	156
Whole number of votes rec'd by L. J. Tatum	1
Whole number of votes rec'd by Bill White	1
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes at box	309

Official returns of W. T. Morrison, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	151
Whole number of votes rec'd by Van H. Manning	156
Whole number of votes rec'd by L. J. Tatum	1
Whole number of votes rec'd by Bill White	1
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes at box	309

The report of the commissioners of election coincide, and are the same as the supervisors' returns.

The following persons were marked rejected, to wit: Jno. Toles, Dan. Holt, Henderson Wiley, Green Burt, Fed Avaunt, E. M. Coruthers, Wiley Taylor, H. R. Branham, Anderson Taylor, Jim Holman, Hiram Morgan, Ned Risen, jr., Jerry Thomas, C. Taylor, Mat Collins, Richard Wiley, Alex. Toles, Alford Pearson, Hudson Longstreet, Ed. Lawshe, Mount Wiley, Enich Shaw, Smart Manago, and J. L. Munlin.

Supervisor Browning makes the following report, to wit: After the polls were closed they carried the ballot-box off to supper. They objected to me following it; I followed them to the house; they put the box in a room and locked the door, and the chief of police placed a guard round the door and told them not to let any one in, as times were getting squally. One of the judges was intoxicated. They also asked colored voters many unnecessary questions when they came in to vote. There were 19 colored voters' names that were not on the poll-book, and two white men; one of them was a Greenbacker and the other a Democrat. After the polls were closed and the vote counted the poll-book was lost. They accused me of taking it. The chief of police came to my house twice and demanded the book. They said that some of Chalmers men had it if I did not.

Supervisor Morrison makes the following report. to wit: One of the judges, Richard Henderson, could not read nor write the English language.

Voters rejected on account of names not being found on the registration book.

The registration book lost on the night of the 7th, after the polls were closed.

SANDERS STORE BOX.

Supervisors appointed, Wm. Pegues, J. N. Slough.

Official returns of Wm. Pegues, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	42
Whole number of votes received by Van H. Manning	68
Whole number of votes received by H. C. Carter	00
Whole number of votes polled at box	110

Official returns of J. N. Slough, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	42
Whole number of votes received by Van H. Maning	68
Whole number of votes received by H. C. Carter	00
Whole number of votes polled at box	110

The report of the commissioners of the elections coincide with supervisors' returns.

No disturbance or irregularities reported.

LAFAYETTE SPRINGS BOX.

Supervisors appointed: J. L. Boone, G. B.; J. R. York, Dem.

Official returns of J. L. Boone, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	36
Whole number of votes received by Van H. Maning	79
Whole number of votes received by H. C. Carter	00
Whole number of votes polled at box	115

Official returns of J. R. York, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	36
Whole number of votes received by Van H. Maning	79
Whole number of votes received by H. C. Carter	00
Whole number of votes polled at box	115

The report of the commissioners of the election coincide with supervisors' returns.

No disturbance or irregularities reported.

DALLAS BOX.

Supervisors appointed: Jno. W. Powell, Ind.; W. E. Russell, Dem.

Official returns of Jno. W. Powell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	21
Whole number of votes rec'd by Van H. Manning	61
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	82

Official returns of W. E. Russell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	21
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes rec'd by Van H. Maning	61
Whole number of votes polled at box	82

The report of the commissioners of election coincides with supervisors' returns.

Supervisor Powell reports the election both fair and quiet, so far as he could observe, and Manning ought to have received one hundred and fifty votes.

PARIS BOX.

Supervisors appointed: J. B. Hamlett, Ind.; T. D. Moore, Dem.

Official returns of J. B. Hamlett, as follows, to wit:

Whole number of votes rec'd Jas. R. Chalmers	24
Whole number of votes rec'd by Van H. Manning	25
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	49

Official returns of T. D. Moore, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	24
Whole number of votes rec'd by Van H. Manning	25
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	49

The report of the commissioners of the election coincide with the supervisors' returns.

Supervisor J. B. Hamlett, n akes the following report, to wit:

"The only irregular votes were four in number, duly registered for this precinct, but living in a different district."

Supervisor T. D. Moore makes the following report, to wit:

"There was nothing wrong here, without it was four votes polled here that you are referred to by J. B. Hamlett in his report, they live in this district, registered voters at this place, but live just across the line in beat four of this county."

ABBEVILLE BOX.

Supervisors appointed: J. Willis Davis, D. B. Certain.

Official returns of J. Willis Davis as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	199
Whole number of votes rec'd by Van H. Maning	92
Whole number of votes rec'd by J. B. Morgan	5
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	296

Official returns of D. B. Certain as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	199
Whole number of votes rec'd by Van H. Maning	92
Whole number of votes rec'd by J. B. Morgan	5
Whole number of votes rec'd by H. C. Carter	00
	296
Whole number of votes polled at box	

The report of the commissioners of the election coincides with supervisors' returns.

Supervisor J. Willis Davis makes the following report, to wit:

"The following persons' rejected names could not be found on poll-book: Rich. Wilson, Andrew Taukesly, Hillard Alexander, Ben Pegues, J. S. Tidwell, T. W. Davis, J. L. Low, J. T. Harris, A. G. Smith, and Lewis Alexander. The election at Abbeville was well conducted; I did not see anything that I conceived to be illegal; everything passed off harmoniously. You will see on this book ten names rejected—they were all rejected for the same reason—names could not be found on the book."

Supervisor D. B. Certain makes the following report, to wit:

"The election was conducted fairly and in accordance with the law."

SPRINGDALE BOX.

Supervisors appointed ——— ———.

All the proper papers, including oaths, commissions, Judge D. Davis's instructions, and the election law, was sent to Springdale box, but have never received any acknowledgement of the same, consequently no returns received.

No report.

DE SOTA COUNTY.

LAKE CORMORANT BOX.

Supervisors appointed: George T. Smith, T. J. Dean.

Official returns of Geo. T. Smith, as follows, to wit: no returns received.

Official returns of T. J. Dean, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	24
Whole number of votes rec'd by Van H. Maning	39
Whole number of votes rec'd by H. C. Carter	8
Whole number of votes polled at box	71

The report of commissioners of election coincide with the supervisors' returns.

The following persons applied to vote, but names not found on registration book, Jno Spright, Dock Bradly, J. L. Greenhaw, Ellis Spencer, and Sebram Barnes.

OLIVE BRANCH BOX.

Supervisors appointed: C. M. Haynie, G. B., C. L. Stewart, Dem.

Official returns of C. M. Haynie, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	87
Whole number of votes rec'd by Van H. Maning	74
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	161

Official returns of C. L. Stewart, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	87
Whole number of votes rec'd by Van H. Maning	74
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	161

The report of the commissioners of the elections coincide with supervisors' returns.

Supervisor C. M. Haynie makes the following report, to wit:

"Polls opened at 9 a. m., but no voting began until 9.55, as W. H. Moody, one of the inspectors, refused to act, T. D. Coopwood being substituted in his place. The voting was adjourned at 12 m. and resumed at 1.15 p. m. The ballot-box and poll-book was in the hands of the election officers during adjournment. On the reopening of the polls at 1.15 p. m. Milton Blocker, one of the inspectors, being absent, not having returned from dinner, W. H. Moody, as aforesaid, acted in his stead, without being sworn, so far as Haynie (supervisor) knew. Blocker returned at 1.40 p. m. and resumed his duties as inspector, whereupon Supervisor Haynie inquired if Moody had been sworn as inspector on assuming the place of Blocker; Moody replied it is none of your business. The following persons were denied the privilege of voting, the reason assigned, 'names not on poll-book': Lewis Watkins, Robin Crutcher, Paul Crutcher, Anguish Miller, Hillard Wood, all of whom were willing to make oath, and so offered to do, that they were lawfully registered for that precinct."

Supervisor C. M. Haynie further reports, to wit: The following men also refused a vote for the following reasons, to wit, "names not on poll-book": Berry Dundridge, Dock Carroll, P. W. Harris (white man), David Boster, Richard Payne, William Cottrell, T. H. Lowery (white man), Clay Blocker, H. T. Murry (white man), J. W. McKelvy (white man), W. W. Kelsey (white man), Andrew Cole, Si Perry.

"The following men refused a vote for the reason a pen-mark through the names: Lee Wood, Solomon Moore, Adam Woods, Jake Adams, Wm. Lane, Sam Woods, Sam Blocker, Rob't Clements, Perdy Jones, Albert Payne, Henry Polk, Allen Perkins, Jordan Stewart, Daniel Parker, George Crutcher, Green Garrison, Eddie Payne, Chas. Burns, Dan Daunridge."

Supervisor C. M. Haynie further reports:

"The following men voted whose names were placed on the poll-book after the morning of the 4th of November, 1882, and whose votes were challenged for this reason: G. R. King and W. W. Miller; John Bollings's name was also on the poll-book, as was King's and Miller's, but his vote was not challenged. I was not in the room at the time of this vote, but saw it cast.

"Early in the morning, about 8 o'clock, I desired to see the poll-book and learned it was in the store-room of C. L. Stewart, and Milton Blocker, U. S. supervisor and State inspector aforesaid, respectively. I went to the store-room as aforesaid and inquired for the poll-book, when W. H. Moody (in the presence of M. J. McNeil, Benj. Buchanan, and W. B. Pace) replied, "I had the book and you sha'n't have it." I then de-

manded of him the book as U. S. supervisor of elections for the Olive Branch precinct. He replied, "I don't care if you demand it in the name of the devil; you sha'n't see it." I was therefore unable to see the book until the polls were opened.

Supervisor C. L. Stewart reports as follows, to wit:

"Polls opened at Olive Branch precinct November 7th, 1882, at five minutes to nine, with the following officers: William Dement, T. D. Coopwood, and M. Blocker as inspectors, and J. E. Crutcher and D. F. Haraway as clerks; closed for count at 6 o'clock p. m.

"The following persons were rejected (no reason assigned): Lee Wood, Jordan Stewart, Sol. Moore, Jake Adams, Robin Crutcher, Wm. Lowe, Sam. Blocker, Green Garrison, Andrew Cole, Albert Paine, Dock Carrall, Robt. Clements, P. W. Harris, W. W. Kelsey, Henry Polk, Daniel Parkerson, Paul Crutcher, Sye Perry, David Barter, Ed. Paine, Richard Paine, Adam Wood, Sam. Wood, William Cottrell, Anguish Miller, Hilliard Ward, Purdy Jones, Allen Perkins, George Crutcher, L. H. Lowery, Clay Blocker, H. T. Murry, Chas. Burns, Dave Dandridge, J. W. McKelvy.

LEWISBURG BOX.

Supervisors appointed: T. J. Wilroy, A. B. Clifton.

Official returns of T. J. Wilroy, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	39
Whole number of votes rec'd by Van H. Manning	80
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	119

Official returns of A. B. Clifton, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	39
Whole number of votes rec'd by Van H. Manning	80
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	119

The report of the commissioners of the election coincide with the supervisors' returns.

No disturbance reported.

Supervisor A. B. Clifton makes the following report, to wit:

"J. W. Wyatt, name not found. D. W. Sneed voted to name of G. W. Sneed. Two Bob Burtons offered to vote, one voted, one rejected. Two ballots for Van H. Manning, folded together, were thrown out.

LAUDERDALE BOX.

Supervisors appointed: T. Frank Johnson, S. D. Johnson.

Official returns of T. Frank Johnson, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	43
Whole number of votes received by Van H. Manning	26
Whole number of votes received by H. C. Carter	00
Whole number of votes polled at box	69

Official returns of S. D. Johnson, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	32
Whole number of votes received by Van H. Manning	48
Whole number of votes received by H. C. Carter	00
Whole number of votes polled at box	80

The commissioners of election returns, as follows, to wit:

Whole number of votes received by Jas. R. Chalmers	32
Whole number of votes received by Van H. Manning	48
Whole number of votes received by H. C. Carter	00
Whole number of votes polled at box	80

Supervisor T. F. Johnson makes the following report, to wit:

"The following named persons refused a vote for the reasons assigned opposite their names: William Campbell, out of district. Solomon Griffin, colored, name not on registration book. Joseph Shields, colored, name Jasper Shields on registration book. S. D. Woodfin, colored, name on registration book, and refused a vote because he had been absent during a short time during the summer. Asberry Jeffreys, colored, name on registration book, and refused a vote on pronunciation. Richard James, colored, out of district. Phenious Gillum, out of district. All who voted for Chalmers voted an open ticket, except Sam. Johnson, whose ticket was opened by the receiving officers."

Supervisor S. D. Johnson reports as follows, to wit:

"Polls opened at 9 a. m. and closed at 6 p. m. Joseph Shields (white), Asberry Jefferson (col'd), applied to vote, but their names not being on the book, were refused. S. D. Woodfin (col'd) was rejected because he had not resided in State six months. Richard Jeans was not allowed a vote because his name was not on poll-book. Richard Cobb (col'd) lived outside of the district, but was permitted to vote before that fact was made known to the election officer; his name was found on the poll-book. Pheneous Gillem (col'd) was not allowed to vote because he lived outside of the district two months. The election officers discharged their duties honestly and impartially, and complied with the law. T. Frank Johnson, U. S. supervisor for the Republicans, was not on the grounds when the polls opened; after ten or twelve votes had been polled he appeared, and was drunk, and continued so all day."

LOVES BOX.

Supervisors appointed: J. H. Wright, D. J. Perry.

Official returns of J. H. Wright, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	71
Whole number of votes rec'd by Van H. Manning	72
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	143

Official returns of D. J. Perry, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	71
Whole number of votes rec'd by Van H. Manning	72
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	143

The report of the commissioners of election coincide with supervisors' returns.

Supervisor J. H. Wright makes the following report, to wit: "Sol Black, Geo. Washington, and Jim Moore, rejected, not registered. Two votes thrown out on account of being three in number; they were for Manning.

The election fair, vote and count.

HORN LAKE BOX.

Supervisors appointed, N. Nail, J. P. Walker.

Official returns of N. Nail, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	90
Whole number of votes rec'd by Van H. Manning	114
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes at box	204

Official returns of J. P. Walker, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	90
Whole number of votes rec'd by Van H. Manning	114
Whole number of votes rec'd by H. C. Carter	000
Whole number of votes polled at box	204

The report of the commissioners of election coincide with the supervisors' returns.

No disturbance reported.

Supervisor J. P. Walker reports as follows, to wit:

"The following rejected; no reason assigned: Richard Mattock, Mark Pope, Armstead Pope, Joshua Jackson, Sam Tate, Cage Pope, Edward Bretner, Alex. McGhee, Boss Maples, Brantley Terry, Chas. Hartz, Hiram Thornton, W. W. Bullard, Crawly Bland, Miles Simpson, Andy Witherspoon, Abram Hinds, Thos. White, Hart Mattock, Monroe Crawford, Starling Shaw, Martin Halland, Thos. McCain, Wesley McDaniel."

Supervisor N. Nails reports as follows, to wit:

"Armstead Pope, not registered; Mark Pope, lives out of district; Rich'd Mattock, not registered; Joshua Jackson, not registered.

"The following rejected for not being registered: Sam. Tate, Ed. Britner, Alex. McGhee, Brantly Terry, Chas. Hartz, W. W. Bullard, Crawly Bland, Miles Simpson, Andy Witherspoon, Abram Hinds, Thos. White, Hart Matlock, Monroe Crawford, Starling Shaw, Martin Halland, Thos. McCain, Wesley McDaniel; Cage Pope, rejected, ives out of district; Boss Maples, rejected, lives out of district."

INGRAM'S MILL BOX.

Supervisors appointed: J. D. Williams, J. B. Ingram.

Official returns of J. D. Williams, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	83
Whole number of votes rec'd by Van. H. Manning	61
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	144

Official returns of J. B. Ingram, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	83
Whole number of votes rec'd by Van. H. Manning	61
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	144

The report of the commissioners of election coincide with supervisors' returns.

A quiet election, no disturbance.

Supervisor J. D. Williams reports as follows, to wit:

"Joseph Chancy came to the polls on the 7th November, 1882, and voted for Manning, his name not found on the registration book, by being sworn that he was registered. In a short time P. C. Powell, col'd, came and stated, 'Mr. Smith, you know I moved my registration to Reynold's box, and going there to-day was refused to vote.' Smith remarked, 'Yes, you live in this precinct or beat, but you think the Government will be lost to-day if you don't vote; and can't vote by my consent; by being sustained by one of the other judges of the election was not allowed to vote."

STEWART'S BOX.

Supervisors appointed: Eben Nelmes, J. T. Boone.

Official returns of Eben Nelmes, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	26
Whole number of votes rec'd by Van H. Manning	40
Whole number of votes rec'd by H. C. Carter	4
Whole number of votes polled at box	70

Official returns of J. T. Boone, as follows to wit:

Whole number of votes rec'd by Jas. R. Chalmers	26
Whole number of votes rec'd by Van H. Manning	40
Whole number of votes rec'd by H. C. Carter	4
Whole number of votes polled at box	70

The report of the commissioners of election coincide with the supervisors' returns.

No disturbance or irregularities reported.

COCKRUM'S BOX.

Supervisors appointed: G. N. Green, J. D. Baker.

Official returns of G. N. Green, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	31
Whole number of votes rec'd by Van H. Manning	106
Whole number of votes rec'd by H. C. Carter	24
Whole number of votes polled at box	161

Official returns of J. D. Baker, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	31
Whole number of votes rec'd by Van H. Manning	106
Whole number of votes rec'd by H. C. Carter	24
Whole number of votes polled at box	161

The report of the commissioners of election coincide with supervisors' returns.

No disturbance reported.

Supervisors G. N. Green and J. D. Baker make the following report jointly, to wit:

"We, the supervisors, have no irregularities to report except that the names of Harry Jean, Republican, Frank Edwards and L. House, Democrats, did not appear on the poll-book, but live and have voted here for several years."

OAK GROVE BOX.

Supervisors appointed: J. M. Weissinger, W. A. Garrison.

Official returns of J. M. Weissinger, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	95
Whole number of votes rec'd by Van H. Manning	54
Whole number of votes rec'd by G W. Nail	1
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	150

Official returns of W. A. Garrison, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	95
Whole number of votes rec'd by Van H. Manning	54
Whole number of votes rec'd by G. W. Nail	1
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	150

The returns of the commissioners of the election coincide with the supervisors' returns.

Supervisor Weissinger reports as follows, to wit:

"The following persons offered to vote, but their names not being on the registration book they were refused a vote, viz: Davis Green, Wm. Anderson, Raymond McGill, Kitt Wall, Scott Wall, Wm. Jones, Joseph Harris, Hatch Johnson, Shodrick Smith, Esau Stewart. The following were refused because they had removed from the election district and their names had been erased from the book, viz: Thos. Jenny, Hugh Oliver, Samuel Doggett, and Henry Oliver; George Jones rejected because proof was submitted that he had been convicted of larceny. In my opinion the election was perfectly fair, and in all things regular. The day passed off without a harsh word by any one."

REYNOLD BOX.

Supervisors appointed: C. L. Jones, Ind.; J. M. Boyce, Dem.

Official returns of C. L. Jones, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	36
Whole number of votes rec'd by Van H. Manning	27
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	63

Official returns of J. M. Boyce, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	36
Whole number of votes rec'd by Van H. Manning	27
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	63

The report of the commissioners of election coincide with returns of the supervisors.

Supervisor C. L. Jones makes the following report, to wit:

"The election was opened at 9 o'clock. Everything went on fair. The election was under the control of J. A. Nesbitt, and he failed to be qualified, and none of the judges and clerks were sworn in. There was nothing said about it until after the count was made, and the Democratic officers refused to sign the returns because they were not sworn in. There was five rejected on account of their names not being properly on the books. They had their names changed from Ingram's Mills to Reynolds themselves. In regard to the officers not being qualified, in my opinion they done it on purpose, as they knew Chalmers would run ahead."

Supervisor J. M. Boye makes the following report, to wit:

"Peter Miller presented his vote, but his name was not on the registration book. Mr. William Kirby, one of the judges, thought he was authorized to register him. The other judges, R. D. Berry and Walter Myers, told him (Kirby) they did not know what the law was, but, if he (Kirby) would assume all the responsibility, to do as he pleased. He then registered the said Miller, and his vote was put in the ballot-box. If this was wrong I do not think Mr. Kirby intended to do anything wrong. He is a good and old man. Two of the judges and all the clerks said they had not been sworn, and refused at first to sign the returns, but Mr. Kirby, who also said he had not been sworn, made out the returns and signed them, and I carried the box to Hernando with his returns in it. After the box was sealed the other judges and clerks wrote an ex-

planation and handed it to me, and requested it to be delivered with the box, which I did. George Winn, Henry Williams, P. C. Powell, and Wiley Nesbitt were registered, but lived out of the bounds of the voting precinct, but none of them were permitted to vote."

HERNANDO COURT-HOUSE BOX.

Supervisors appointed: W. A. Raines, J. M. Brown.

Official returns of W. A. Raines, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	131
Whole number of votes rec'd by Van. H. Manning	59
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	190

Official returns of J. M. Brown, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	131
Whole number of votes rec'd by Van H. Manning	59
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	190

The returns of the officers of election coincide with the supervisor's returns.

Supervisor W. A. Raines reports as follows, to wit:

"The election at inclosed precincts was conducted in a fair and just manner by all concerned."

HERNANDO DEPOT BOX.

Supervisors appointed: W. D. Howze, W. B. Boone.

Official returns of W. D. Howze. as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	101
Whole number of votes rec'd by Van H. Manning	50
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	151

Official returns of W. B. Boone, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	101
Whole number of votes rec'd by Van H. Manning	50
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	151

The report of the commissioners of the election coincide with supervisor's returns. No disturbance or irregularities reported.

NESBITT STATION BOX.

Supervisors appointed: Thos. Shepard, Jas. Meharg.

The official report of Thos. Shepard, as follows, to wit:

"This is to certify that the inspectors at Nesbitt Station precinct failed to hold an election at that place on Nov'r 7th, 1882.

"They gave as their reason or excuses that one of their number, Mr. Winningham, refused to serve, and that they could not get two suitable persons to act as clerks. I, as U. S. supervisor, arrived at the precinct before 9 o'clock, and immediately proceeded to ascertain who were the inspectors of election. I found them to be the following-named persons; W. L. Lundy, D. Boyd, and Winningham. I then reminded Lundy who had the ballot-box, that it was time the polls were opened; whereupon he told me that the ballot-box had been sent to him without a key, but that he had gotten a key to fit it from George Robertson, the blacksmith. This I also learned from J. C. Mehearg, who I understood was my associate supervisor.

"Lundy then told me that one of the inspectors would not serve, and that he could not get clerks to serve. Then they delayed for a considerable time any further attempt to get either inspectors or clerks. During this delay I accompanied Inspector Lundy to the telegraph office; he intended to telegraph to the election officers at Hernando for instructions in the premises. When we got there we found Inspector Boyd, who said he had telegraphed to one Buchanan, but had received no answer. So far as I know, they got no answer at all. We then came back to the place where polls were intended to have been held. Then Mr. Lundy stated to the voters present that he had tried to get clerks, and to satisfy them further, he would take me as U. S. supervisor, and try again to induce some persons to act as clerks. He then, accompanied by me, went and asked every white man we saw in town to act as clerk,

and they all refused. I then suggested to Mr. Lundy to try to get some qualified colored men to act as clerks; he did not call on any of them to act. Seeing this I called upon any colored man who was competent, to come forward and act as clerk, and one Alonzo Wesson came forward. Mr. Lundy examined him and said he was competent. Then he called upon any colored man who was competent to act as inspector, and Jesse Sledge came forward and was accepted. He then called on any man, white or black, to fill the remaining clerkship, and no one responded. Just at this time Inspector Boyd told J. C. Mehearg that he would not serve, and left the house. I remarked to Mr. Mehearg after he made it known to the voters, that I thought Mr. Boyd did wrong in leaving them; this occurred about 11 o'clock a. m. Then Mr. Lundy said, as the other inspectors would not serve, that he did not wish to serve, as he did not want to incur the odium of the Democratic party. I reminded him that it was his duty to act according to the election laws; he made no reply. Previous to this he had made several efforts to have an election.

"After a short delay I read to the voters section 133 of the election laws of Mississippi to show that when the inspectors fail to act that any three qualified electors may act as inspectors, but no one offered to act as such. All now became demoralized, and there was no further attempt to hold the election. Some time after this I asked Mr. Lundy what he was going to do with the ballot-box. He gave it to me, with the key, and I took them to Hernando and gave them to Election Commissioner Gwyn. I would add that it has been the custom heretofore to have a peace officer at this precinct, appointed by magistrate or mayor, but this was omitted for some cause unknown to me.

"Inspector Lundy expressed himself freely and publicly that he would perform his duty honestly and in good faith until the time Mr. Boyd refused to serve, and he appeared very anxious that I should certify to the fact."

PLEASANT HILL BOX.

Supervisors appointed: W. F. Henly, J. C. Williamson.

Official returns of W. F. Henly, as follows, to wit: No returns received.
Official returns of J. C. Williamson, as follows, to wit: No returns received.
No report.

EUDORO BOX.

Supervisors appointed: Napoleon Stewart, Job Harrell.

Official returns of Napoleon Stewart, as follows, to wit: No returns received.
Official returns of Job Harrell, as follows, to wit: No returns received.
No report.

TALLAHATCHIE COUNTY.

DOGWOOD FLAT BOX.

Supervisors appointed: Reubin Davis, R. Denman.

Official returns of Reubin Davis, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	78
Whole number of votes rec'd by Van H. Maning	30
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	108

Official returns of R. Dennan, as follows, to wit: No returns received.
No disturbance or irregularities reported.
Supervisor Reubin Davis makes following report, to wit:

"Scipeo Taylor and Jacob Caldwell were rejected, their names having been stricken from the roll, but each established the fact that he lived in the Dogwood Flat beat, and had registered for that place."

BROOKLIN BOX.

Supervisors appointed: Willie Gaines, James Webb.

Official returns of Willie Gaines, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	40
Whole number of votes rec'd by Van H. Maning	19
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes at box	59

Official returns of Jas. Webb, as follows, to wit: No returns received.
The report of the commissioners of the election coincide with the supervisors' returns.
No disturbance reported.

CENTRE POINT BOX.

Supervisors appointed: Rob't Laughlin, P. H. Houston.

Official returns of Rob't Laughlin, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	44
Whole number of votes rec'd by Van H. Manning	67
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	111

Official returns of P. H. Houston, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	44
Whole number of votes rec'd by Van H. Manning	67
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	111

The report of the commissioners of election coincide with the supervisors' returns. No disturbance or irregularities reported.

BOOTH BOX.

Supervisors appointed: W. W. Buntin, Oliver Caruthers.

Official returns of W. W. Buntin, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	2
Whole number of votes rec'd by Van H. Manning	46
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	48

Official returns of Oliver Caruthers, as follows, to wit: No returns received.

The report of the commissioners of election coincide with the supervisors' returns. No disturbance reported.

CHARLESTON BOX.

Supervisors appointed: E. C. Aldridge, Dem.; W. B. Marshall, Ind.

Official returns of E. C. Aldridge, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	107
Whole number of votes rec'd by Van H. Manning	91
Whole number of votes rec'd by H. C. Carter	3
Whole number of votes polled at box	201

Official returns of W. B. Marshall, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	107
Whole number of votes rec'd by Van H. Manning	91
Whole number of votes rec'd by H. C. Carter	3
Whole number of votes polled at box	201

The report of the commissioners of election coincide with returns of the supervisors. No disturbance reported.

Supervisor Aldridge makes the following report, to wit:

"John Bailey (white) lives in Charleston, Tallahatchie County, Miss., and was born and raised here. Is a young man, and goes to and from his father's (J. S. Bailey's) plantation, on Tallahatchie River, where he is assisting his father in attending to the business of the plantation, having been so engaged since spring, being sometimes here and sometimes on said plantation. His absence is temporary and on business, and with no intention of changing his citizenship; having never changed his registration, claims this as his home. Geo. Miller (col'd) lives in this precinct; his family is here, and he has spent part of summer here working as a mechanic; as a mechanic, has spent a considerable portion of his time on said plantation of J. S. Bailey for present year, building and covering houses; has a home in this precinct; has never changed his citizenship and has not registered at any other place. His name, as well as Bailey's, remains on books here. Thompson Barns (col'd) lives and pays rent on house in this town, but is temporarily out of town, three miles, picking cotton; has not changed his citizenship, and his name appears on polls, and only went out to pick cotton recently."

Supervisor W. B. Marshall makes following report, to wit:

"Thompson Barnes resides out of precinct."

"John Bailey stays in Leflore County; claims that this was his home.

"George Mister voted; was staying in Leflore County at times, but claims this as his home."

ROSS MILL BOX.

Supervisors appointed: J. W. Allen, J. M. Bailey.

Official returns of J. W. Allen, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	10
Whole number of votes rec'd by Van H. Manning	56
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	66

Official returns of J. M. Bailey, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	10
Whole number of votes rec'd by Van H. Manning	56
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	66

The report of the commissioners of election coincide with returns of supervisors. No disturbance or irregularities reported.

SHERMAN'S CREEK BOX.

Supervisors appointed: R. T. Barber, J. B. Thornton.

Official returns of R. T. Barber, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	60
Whole number of votes rec'd by Van H. Manning	32
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	92

Official returns of J. B. Thornton, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	60
Whole number of votes rec'd by Van H. Manning	32
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	92

The report of the commissioners of election coincide with the supervisors' returns. No disturbance or irregularities reported.

NEW HOPE BOX.

Supervisors appointed: Mat Denman, I. W. Thomas.

Official returns of Mat Denman, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	39
Whole number of votes rec'd by Van H. Manning	41
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	81

Official returns of I. W. Thomas, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	39
Whole number of votes rec'd by Van H. Manning	41
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	81

The report of the commissioners of election coincides with supervisors' returns.

HARRISON BOX.

Supervisors appointed: William Ruffin, Ind.; D. W. Patterson, Dem.

Official returns of Wm. Ruffin, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	5
Whole number of votes rec'd by Van H. Manning	49
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	56

Official returns of D. W. Patterson, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	5
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes rec'd by Van H. Manning	49
Whole number of votes polled at box	56

The report of the commissioners of election coincide with supervisors' returns. No disturbance reported.

Supervisor Wm. Ruffin makes following report, to wit:

"P. E. Ross offered to vote, and as he was registered P. A. Ross, Inspector H. H. Bridgers was in favor of receiving the vote; Inspectors Bell and Mitchell were opposed, and Ross did not vote. U. B. Mitchell offered to vote, and Inspectors Bridgers and Bell objected, saying the registration of this name was W. B. Mitchell and not U. B. Mitchell. H. H. Bridgers proposed to receive Mitchell's vote, if Mitchell would agree to receive Ross's. Mitchell declined, as he was on his oath, but contended that it was U. B. Mitchell on the registration book. Parties present were divided on this, their opinions being very much governed by their political bias. Afterwards, upon examination of the statutes, the inspectors, thinking themselves the judges of the qualifications of voters, after satisfying themselves that both Ross and Mitchell had offered to be registered, received their votes. H. B. Gowen offered to vote, but finding no such name, but A. B. Gowen, inspectors then swore Mr. Gowen and accepted his vote."

Supervisor D. W. Patterson reports as follows, to wit:

"Polls opened at 9 o'clock; officers sworn in; was some objection on part of inspectors about allowing some parties to vote, because the initials of their names did not correspond with poll-book. U. B. Mitchell was W. B. Mitchell, H. B. Gowen was A. B. Gowen, J. P. Hamilton was G. P. Hamilton, but after examining the statutes they allowed all to vote."

TIPPO BOX.

Supervisors appointed: Iredell C. Denman, R. J. Ward.

Official returns of I. C. Denman, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	00
Whole number of votes rec'd by Van H. Manning	11
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	11

Official returns of R. J. Ward, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	00
Whole number of votes rec'd by Van H. Manning	11
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	11

The report of the commissioners of the election coincide with the supervisors' returns.

Supervisor I. C. Denman reports as follows, to wit:

"The polls was not opened until 12 o'clock, in consequence of not having enough qualified voters to hold the election; the State officials was not qualified except Returning Officer Lum Johnson. The election passed off very quietly, without any disturbance whatever."

Supervisor R. J. Ward makes the following report, to wit:

"Tippo Precinct is very small, situated fourteen miles from county site; but little interest was taken in the election. There was not enough voters present to hold the election before 12 o'clock. Consequently the polls were not opened before 12 o'clock. The election passed very quietly; none of the returning officers qualified except Returning Officer Lum Johnson."

HYBERNIA BOX.

Supervisors appointed: W. King Green, Jno. Blythe.

Official returns of W. K. Green, as follows, to wit: No returns received.
Official returns of Jno. Blythe, as follows, to wit: No returns received.
No report.

BUFORD'S BOX.

Supervisors appointed: C. C. Friarson, R. M. Bonds.

Official returns of C. C. Friarson, as follows, to wit: No returns received.
Official returns of R. M. Bonds, as follows, to wit: No returns received.
No report.

LEVERETT'S STORE BOX.

Supervisors appointed: C. C. Metts, Louis Turner.

Official returns of C. C. Metts, as follows, to wit: No returns received.
Official returns of Louis Turner, as follows, to wit: No returns received.
No report.

GRABALL BOX.

Supervisors appointed: T. W. Turner, Alexander Graham.
Official returns of Lewis Turner, as follows, to wit: No election held at Graball.
Official returns of Alex. Graham, as follows, to wit: No returns received.
Supervisor T. W. Turner makes the following report, to wit:

"On Monday morning, the 6th I left Charleston with the Graball box and book, in company with Mr. Alex. Pattison, who had been sworn as U. S. supervisor on the 3rd, but was quite sick, and did not feel able to fill the place. We remained all night at Mr. Jerry Robinson's. On Monday night or Tuesday morning, the 7th, about day-light, I was waited on by a committee of three citizens, who represented themselves as the delegates of an armed band on the opposite side of the Tallahatchie River (and the Graball side), and demanded to know if I was here for the purpose of opening the polls, or assisting in holding the election at Graball on that morning. I stated to them that I was the U. S. supervisor for the Graball box, and that I should go to the precinct with box and book and allow the voters an opportunity of voting. They stated they were instructed to say to me that they, the assembled citizens, would not allow me to go to the polls, and if I attempted it they would repel me with force. I stated to the delegates that at 8 o'clock I should cross the river and proceed to the voting place, and if they chose to take the responsibility of using force to prevent me from performing my duty as U. S. supervisor, or turning me back, the responsibility would rest on them, In company with Mr. Jerry Robinson, Mr. Alex. Pattison, and Lawson McIntire (col'd), who was driving our hack, in which we had the box and book, we crossed the river and proceeded on our way to the voting place; when getting opposite Swan Lake Landing, on the river, we were halted by an armed outpost, composed of six or seven citizens, armed with repeating rifles, and demanded to turn back, as they were determined to resist our further progress and any attempt to hold the election. I then asked that those armed and in advance should come up, and let me see who I had to contend with and who composed the crowd, and on assembling the following citizens composed the armed force, and united in resisting any attempt to hold the election, viz: Capt. B. W. Sturdivant, Robt. Sturdivant, J. P. Sturdivant, J. S. Woodall, J. W. Hood, Cassa Callier, E. A. Sullivan, W. C. Sullivan, R. F. Greer (dead), T. G. James 'not armed,' Joe Jenkins, Kinch Jenkins, Newton Campbell. The two Jenkins came from Dist. No. 5; also W. C. Sullivan.

"The armed force after assembling gave as a reason for their resisting the holding of the election at Graball or its vicinity, that they were prompted by a fear of contagion from the infected district of small-pox, stating at the same time that they had a guard out to prevent any one crossing from the vicinity of small-pox. Over one hundred (col'd) voters assembled at an isolated church about one mile from Graball, in same beat, for the purpose of casting their votes for Gen. Chalmers, and were dispersed about 12 o'clock, I am informed, by a committee who handed me the following names, which I submit. E. A. Sullivan has been more conspicuous, having, I am informed, gone outside the district for parties to unite in resisting the holding the election. Three was all I recognized as living out of district No. 4, two Jenkins and W. C. Sullivan."

BENTON COUNTY.

ASHLAND BOX.

Supervisors appointed: J. W. McKenzie, W. T. Dickenson, jr.

Official returns of J. W. McKenzie, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	85
Whole number of votes rec'd by Van H. Manning	83
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	170

Official returns of W. T. Dickenson, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	85
Whole number of votes rec'd by Van H. Manning	83
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	170

The returns of the commissioners of election coincide with the supervisors' returns. No disturbance or irregularities reported.

SALEM BOX.

Supervisors appointed: E. A. C. Davis, R. S. Hamer.

Official returns of E. A. C. Davis, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	96
Whole number of votes rec'd by Van H. Manning	37
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	133

Official returns of R. S. Hamer, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	96
Whole number of votes rec'd by Van H. Maning	37
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	133

The report of the commissioners of election coincide with the supervisors' returns.

No disturbance or irregularities reported.

Supervisor E. A. C. Davis makes following report, to wit:

"Clark Marsh and Lewis Ayers voted on certificate of circuit clerk; their names were on register book, but not on the poll-book; voted for Chalmers."

POTTS MILL BOX.

Supervisors appointed: R. J. Morehead, Jno. A. Temple.

Official returns of R. J. Morehead, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	22
Whole number of votes rec'd by Van H. Maning	23
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	45

Official returns of Jno. A. Temple, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	22
Whole number of votes rec'd by Van H. Manning	23
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes rec'd at box	45

The report of the commissioners of election coincide with supervisors' returns.

No disturbance or irregularities.

MICHIGAN CITY BOX.

Supervisors appointed: H. W. Hardaway, J. H. Shoup.

Official returns of H. W. Hardaway, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	215
Whole number of votes rec'd by Van H. Manning	70
Whole number of votes rec'd by H. C. Carter	6
Whole number of votes polled at box	291

Official returns of J. H. Shoup, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	215
Whole number of votes rec'd by Van H. Manning	70
Whole number of votes rec'd by H. C. Carter	6
Whole number of votes polled at box	291

The report of the commissioners of election coincide with the returns of the supervisors.

No disturbance or irregularities reported.

Supervisor Shoup makes the following report, to wit:

"The following persons offered to vote, when it was found that the 'A's' in the registration book was lost out: R. E. Aldridge, Wallace Anderson, John Anderson, Frank Age, Sam Anderson, J. E. Autry, Stewart Abbott, Alf. Ayers, Wash. Alexander, Frank Ayers. R. F. Robertson not on registration book, says he registered on Oct. 28, 1882, at Ashland.

"The above men voted, with the exception of J. E. Autry, under oath."

SHAWNEE BOX.

Supervisors appointed: J. C. Julian, J. R. Casey.

Official returns of J. C. Julian, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	9
Whole number of votes rec'd by Van H. Manning	38
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	49

Official returns of J. R. Casey, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	9
Whole number of votes rec'd by Van H. Maning	38
Whole number of votes rec'd by H. C. Carter	2
Whole number of votes polled at box	49

The report of the supervisors of the election coincide with the returns of the commissioners.

No disturbance; the election passed off quietly.

LAMAR BOX.

Supervisors appointed: J. A. Reed, M. W. Young.

Official returns of J. A. Reed, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	138
Whole number of votes rec'd by Van H. Maning	61
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	200

Official returns of M. W. Young, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	138
Whole number of votes rec'd by Van H. Manning	61
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	200

The report of the commissioners of election coincide with the returns of the supervisors.

No disturbance or irregularities reported.

CANAAN BOX.

Supervisors appointed: J. A. Thomas, E. S. Wells.

Official returns of J. A. Thomas, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	62
Whole number of votes rec'd by Van H. Manning	62
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	124

Official returns of E. S. Wells, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	62
Whole number of votes rec'd by Van H. Manning	62
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	124

The report of the commissioners of election coincides with returns of the supervisors.

No disturbance or irregularities reported.

HICKORY FLAT BOX.

Supervisors appointed: J. R. Mize, Cape Gadd.

Official returns of J. R. Mize, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	48
Whole number of votes rec'd by Van H. Manning	68
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	116

Official returns of Cape Gadd, as follows, to wit: No returns received.

Supervisor J. R. Mize's returns coincide with the returns of the commissioners of election.

No disturbance reported.

Supervisor Mize reports as follows, to wit:

"There was one hundred and fifteen names registered on poll-book that voted, and there was one hundred and sixteen votes counted. It is my honest opinion that it was an unintentional mistake."

GLEN'S MILL BOX.

Supervisors appointed: S. D. Bookout; ——— ——— failed to serve.

The official returns of S. D. Bookout, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	19
Whole number of votes rec'd by Van H. Manning	29
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	48

Official returns of (this supe'r did not serve), as follows, to wit: Commission sent.

The report of the commissioners of election coincide with the returns of the supervisors.

No disturbance reported.

MAXEY STORE BOX.

Supervisors appointed: M. J. Cox; ——— ——— failed to serve.

Official returns of M. J. Cox, as follows, to wit:

Whole number of votes rec'd by Van H. Manning	70
Whole number of votes rec'd by Jas. R. Chalmers	45
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	115

Official returns of (this supe'r did not serve), as follows: Commission sent.

The official report of the commissioners of election coincide with returns of supervisors.

No disturbance reported.

HAMILTON BOX.

Supervisors appointed: Bent Milton; ——— ——— failed to serve.

I, L. B. Milton, do hereby certify that the vote as reported by the judges and clerks of the election held at this place on the 7th of Nov., 1882, for Representative in the lower House of Congress, was correct and true; that I witnessed the count of the same. I further certify that, because Mr. J. P. Nabers, one of the election commissioners appointed regularly by the State authorities for this county, told me that the orders sent by the U. S. supervisor were nullified by orders of Gov. Lowery, and acting on this information, I did not deem it necessary to remain in the room all the time, and did not do so, therefore have no separate list of names.

This the 24th day of Nov., 1882.

UNION COUNTY.

NEW ALBANY BOX.

Supervisors appointed: L. J. Langston, E. C. H. Haynie.

Official returns of L. J. Langston, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	49
Whole number of votes rec'd by Van H. Manning	194
Whole number of votes rec'd by H. C. Carter	5
Whole number of votes polled at box	248

Official returns of E. C. H. Haynie, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	49
Whole number of votes rec'd by Van H Manning	194
Whole number of votes rec'd by H. C. Carter	5
Whole number of votes polled at box	248

The supervisors of election returns coincide with the commissioners' returns.

J. C. Young, voting No. 216, thought to be illegal.

KENNEDY'S BOX.

Supervisors appointed: James Woodruff, L. F. Gentry.

Official returns of Jas. Woodruff, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	3
Whole number of votes rec'd by Van H. Manning	53
Whole number of votes rec'd by H. C. Carter	1
Whole number of votes polled at box	57

Official returns of L. F. Gentry, as follows, to wit: No returns received.

The report of the commissioners of election coincide with the supervisor's returns. No disturbance reported.

TOM FORD'S BOX.

Supervisors appointed: W. P. Wills, H. Marshall.

Official returns of W. P. Wills, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	32
Whole number of votes rec'd by Van H. Manning	152
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	184

Official returns of H. Marshall, as follows, to wit: No returns received.

The report of the commissioners of elections coincide with supervisors' returns. No disturbance reported.

RAMPLEY'S BOX.

Supervisors appointed: T. H. Owens, Jas. Watson.

Official returns of T. H. Owens, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	3
Whole number of votes rec'd by Van H. Manning	81
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	84

Official returns of Jas. Watson, as follows, to wit: No returns received.

The report of the commissioners of election coincide with supervisors' returns. No disturbance reported.

KEOWNSVILLE BOX.

Supervisors appointed: J. H. Wells, Z. Tate, jr.

Official returns of J. H. Wells, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	20
Whole number of votes rec'd by Van H. Manning	131
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	151

Official returns of Z. Tate, jr., as follows, to wit: No returns received.

The report of commissioners of election coincide with returns of supervisors. No disturbance reported.

SALEM BOX.

Supervisors appointed: T. W. Taylor, O. P. Major.

Official returns of T. W. Taylor, as follows, to wit: "Did not receive commission in time. Do not know what the vote was."

Official returns of O. P. Major, as follows, to wit: No returns received.

No report.

CONCORD BOX.

Supervisors appointed: G. W. Hall, A. J. Lee.

Official returns of G. W. Hall, as follows, to wit: "Did not receive commission in time."

Official returns of A. J. Lee, as follows, to wit: No returns received.

No report.

JONES CHAPEL BOX.

Supervisors appointed: Thos. Browning, C. Williams.

Official returns of Thos. Browning, as follows, to wit: Don't know the vote of either Manning or Chalmers. "Commissions sent too late."

Official returns of C. Williams, as follows, to wit: No returns received.

No report.

ZION HILL BOX.

Supervisors appointed: David Howell, C. S. Robertson.

Official returns of David Howell, as follows, to wit: "Did not serve; I am too old to stand up all day."

Official returns of C. S. Robertson, as follows, to wit: No returns received.

No report.

PULLEYS BOX.

Supervisors appointed: Jno. W. Rogers, J. I. Wade.

Official returns of Jno. W. Rogers, as follows, to wit: "Was sick; could not serve."

Official returns of J. I. Wade, as follows, to wit: No returns received.

No report.

PLENTITUDE BOX.

Supervisors appointed: W. T. Langston, M. L. Henry.

Official returns of W. T. Langston, as follows, to wit: "Was sick; could not serve."

Official returns of M. L. Henry, as follows, to wit: No returns received.

No report.

ELLISTOWN BOX.

Supervisors appointed: L. B. Hall, S. S. Hall.

Official returns of L. B. Hall, as follows, to wit: No returns received.

Official returns of S. S. Hall, as follows, to wit: No returns received.

No report.

TIPPAH COUNTY.

FALKNER BOX.

Supervisors appointed: G. M. Maddox, Pinkney Topp.

Official returns of G. M. Maddox, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	22
Whole number of votes rec'd by Van H Manning	138
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	160

Official returns of Pinkney Topp, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	22
Whole number of votes rec'd by Van H. Manning	138
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	160

The report of the commissioners of election concide with returns of supervisors.

No disturbance reported.

SAND HILL BOX.

Supervisors appointed: F. G. Cassitt, Wm. J. McIntyre.

Official returns of F. G. Cassitt, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	55
Whole number of votes rec'd by Van H. Manning	106
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	161

Official returns of Wm. McIntyre, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	55
Whole number of votes rec'd by Van H. Manning	106
Whole number of votes rec'd by H. C. Carter	00
	161

The report of the commissioners of election coincide with supervisors' returns.
No disturbance reported.

JONESBOROUGH BOX.

Supervisors appointed: T. Jeff Powell, W. T. Wilson.

Official returns of T. J. Powell, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	6
Whole number of votes rec'd by Van H. Manning	88
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	94

Official returns of W. T. Wilson, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	6
Whole number of votes rec'd by Van H. Manning	88
Whole u mber of votes rec'd by H. C. Carter	00
Whole number of votes at box	94

The report of commissioners of election coincide with supervisors' returns.
No disturbance reported.

BLUE MOUNTAIN BOX.

Supervisors appointed: R. T. Cawthorn, Tom Dean.

Officials returns of R. T. Cawthorn, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	70
Whole number of votes rec'd by Van H. Manning	122
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes at box	192

Official returns of Tom Dean, as follows, to wit: "I was not a voter at Blue Mountain box, and therefore did not serve."
The report of the commissioners of election coincides with supervisors' returns.

DUMAS BOX.

Supervisors appointed: George Saddler, I. L Henson.

Officials returns of George Saddler, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	7
Whole number of votes rec'd by Van H. Manning	175
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	182

Official returns of J. L. Henson, as follows, to wit:

Whole number of votes rec'd by J. R. Chalmers	7
Whole number of votes rec'd by Van H. Manning	175
Whole number of votes rec'd by H. C. Carter	00
Whole number of votes polled at box	182

The report of the commissioners of the election coincide with supervisors' returns.
No disturbance reported.

ORIZABA BOX.

Supervisors appointed: Sam'l Stewart, R. I. Hill.

Official returns of Sam'l Stewart, as follows, to wit: No returns received.
Official returns of R. I. Hill, as follows, to wit: "I did not choose to act for either party, and did not accept the position of supervisor."
No disturbance reported.

RIPLEY BOX.

Supervisors appointed: N. W. Roach, T. W. Smith.

Official returns of N. W. Roach, as follows, to wit: No returns received.
Official returns of T. W. Smith, as follows, to wit: No returns received.
No report.

KITCHAM'S BOX.

Supervisors appointed: Tice Carpenter, Frank Morrison.

Official returns of Tice Carpenter, as follows, to wit:

Whole number of votes rec'd by Jas. R. Chalmers	2
Whole number of votes rec'd by Van H. Manning	14
Whole number of votes rec'd at box	16

Official returns of Frank Morrison, as follows, to wit: No returns received.
The report of the commissioners of election coincide with supervisors' returns.
No disturbance reported.

BETHLEHAM BOX.

Supervisor, appointed: Sam McAllister, Ed. Stricklin.

Official returns of Sam McAllister, as follows, to wit:
Official returns of Ed. Stricklin, as follows, to wit:

MOORE'S MILL BOX.

Supervisors appointed: Wash. McCorley, F. M. Gaudy.
Official returns of Wash. McCorley, as follows, to wit: No returns received.
Official returns of F. M. Gaudy, as follows, to wit:

"I was handed a package of papers at the mill the day Chalmers spoke there, by Henry Worsham, I looked at them and told him that I would not serve; I served two years ago under your order, and paid my own expense for taking the oath, and postage, and never rec'd a cent for it. I haven't taken the oath, had nothing to do with the election as supervisor, and furthermore I would see you in hell before I would have anything to do with it; now inforce the law, and be damn."

UNITED STATES OF AMERICA,
Northern District of Mississippi:

I, Orlando Davis, chief supervisor of elections, in and for the district aforesaid, do hereby certify that the foregoing 345 pages contain a full and true copy of all the reports made to me by the supervisors of election of the second Congressional district of the State aforesaid, for the election held therein for Representatives in Congress, on the second Tuesday—being the ——day of the month of November, 1882.

In testimony whereof I have hereunto set my hand this 1st day of December, A. D. 1882.

ORLANDO DAVIS,
Chief Supervisor of Electons for Northern District of Mississippi.

O

48TH CONGRESS, 1st Session. } HOUSE OF REPRESENTATIVES. { MIS. DOC. No. 50.

PORTAGE LAKE AND LAKE SUPERIOR SHIP-CANAL COMPANY.

TESTIMONY

TAKEN IN

THE INVESTIGATION OF THE PORTAGE LAKE AND LAKE SUPERIOR SHIP-CANAL COMPANY,

BY THE COMMITTEE ON THE PUBLIC LANDS.

MAY 5, 1884.—Recommitted to the Committee on the Public Lands and ordered to be printed.

MARCH 13, 1884.

Whereas by act approved March 3, 1865, Congress granted 200,000 acres of land to the State of Michigan to aid in the construction of a breakwater, harbor, and ship-canal to connect Lake Superior and Portage Lake, on Keweenaw Point, in said State of Michigan, and afterward by act approved July 3, 1866, made an additional grant of 200,000 acres more to said State for the same purpose; and

Whereas said State of Michigan confirmed said lands on the Portage Lake and Lake Superior Ship-Canal Company for the purpose of constructing said breakwater, harbor, and ship-canal; and

Whereas said acts required the lands granted thereby to be selected from the alternate and odd-numbered sections (except 50,000 acres, which were to be selected from the even-numbered sections) of the public lands nearest to said harbor and canals; and

Whereas it is charged and alleged that said lands were not selected as required by said acts, but that large quantities of very valuable lands were selected all over the upper peninsula of said State, in violation of said acts, and said canal company now claims to own said lands so selected, though large quantities of these were not liable to be used to satisfy said grants; and

Whereas it appears from reports of Government engineers that said canal company never completed said breakwater, harbor, and ship-canal as contemplated and required by said granting act; and

Whereas said canal company failed to complete said breakwater, harbor, and ship-canal within the time limited by the acts of Congress extending the time for the completion of the same; and

Whereas it was provided in said granting acts that in the case of the failure of the said canal company to complete said harbor and canal within the time so limited the lands so granted should revert to the United States: Therefore,

Be it resolved, That the Committee on the Public Lands be, and is hereby, instructed to investigate all of said charges and allegations, together with all matters pertaining to said grant, and whether said grants or any portions thereof are now liable to forfeiture, with power to send for persons and papers, to administer oaths, and report to this House, by bill or otherwise; and said committee is hereby authorized to employ a stenographer if it deems the service of one necessary.

Attest:

JNO. B. CLARK, JR.,
Clerk.

COMMITTEE ON THE PUBLIC LANDS,
Friday, March 28, 1884.

Messrs. Payson, Shaw, and Van Eaton were appointed a subcommittee to make the investigation under the foregoing resolution.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE PUBLIC LANDS,
Friday, March 28, 1884.

Present: All the members of the subcommittee, consisting of Mr. Payson (in the chair), Mr. Shaw and Mr. Van Eaton. There were also present Messrs. Thomas N. McCarter, J. H. McGowan, and Theodore M. Davis, of counsel for the Portage Lake and Lake Superior Ship-Canal Company; and Mr. James K. Redington, counsel for residents of Michigan Upper Peninsula.

Mr. MCCARTER. Mr. Chairman, I understand the proposition to be that we are to put in our proof on the construction of the canal. I have had no conference with the subcommittee, but I assume that they are acquainted generally with the subject.

Mr. PAYSON. In order to save time, I do not think any recitation of facts by the counsel will shed any additional light on the subject.

Mr. MCCARTER. Then, I suppose it will be in order to offer in evidence the certificates of the officers of the State of Michigan who were appointed to make the surveys upon which the title was to vest in the canal company.

Mr. PAYSON. I think the subcommittee will waive the formality of reading those certificates; as we have them in print they may be submitted to the subcommittee.

Mr. REDINGTON. I think the certificates should be introduced in evidence; I rely on the infirmity of those certificates.

Mr. PAYSON. Is there any dispute between counsel as to whether the papers in print are true copies of the original papers, as they purport to be?

Mr. REDINGTON. I do not know.

Mr. PAYSON. The papers can be admitted until Mr. Swineford shall come, and then if there is any dispute as to the correctness of the copies, they may be supplemented by a further offer.

Mr. McCarter then offered in evidence the following papers:

Certificate of John H. Forster, State engineer, as to the completion of the Portage Lake and Lake Superior Ship-Canal. (Marked Exhibit A.)

Also, certificate of Charles E. Holland, who was appointed by the governor to ascertain whether the conditions of the act of Congress had been complied with. (Marked Exhibit B.)

Also, certificate of Samuel Wright, the engineer who assisted Mr. Holland in making the examination, in order to enable him to subsequently report to the governor. (Marked Exhibit C.)

Also, a sworn copy of the governor's certificate, dated November 29, 1873. (Marked Exhibit D.)

Also, exemplified copy of additional certificate of Governor Bagley, dated June 25, 1875. (Marked Exhibit E.)

Also, certified copies of plans of the work, as devised by the engineer of the State of Michigan, and approved by Governor Crapo, October 4, 1873. (Marked Exhibits F and G.)

Also, certified copy of specifications prepared to accompany those plans prepared by the engineer of the State of Michigan in pursuance of the act of the legislature of the State of Michigan, approved by the governor on the 3d of March, 1865, and filed with the plans. (Marked Exhibit H.)

Also, diagram or plat of the canal filed in the War Department and also in the Land Department of the United States, in pursuance of the provisions of the first act of Congress. (Marked Exhibit I.)

Also, certificate of the Secretary of War, Hon. Robert T. Lincoln, certifying that that plan is on file in the War Department now, and was May 12, 1865. (Marked Exhibit K.)

JOHN H. FORSTER sworn and examined.

By Mr. McCARTER:

Question. What is your age?—Answer. Nearly 62.

Q. Where do you live?—A. I live in Ingham County, Michigan.

Q. What is your profession?—A. I am a farmer.

Q. Has that always been your occupation?—A. No, sir; I am a civil engineer and mining engineer.

Q. How long did you serve in that profession?—A. Some 30 years.

Q. Where?—A. At first I was engaged in the construction of the New York and Erie Railroad; afterwards I was in the United States lake surveys for a great many years, under General Kearney, Colonel Macomb, General Meade, and General Raynolds; I was second assistant engineer in the survey of the Mexican boundary line under the treaty of Guadalupe, right after the war; afterwards, in the Light-House Department in connection with the river and harbor improvements; after that I opened a private canal at the mouth of Portage River for the mining companies; after that I had charge of certain copper mines on Lake Superior for a period of eight years; afterwards I was special engineer for the State of Michigan in the construction of the Portage Lake and Lake Superior Ship-Canal under the administration of Governor (afterwards ex-Senator) Baldwin and Governor Bagley; since 1873 I have been engaged in farming near the capital of Michigan.

Q. Have you had any connection with or employment in the construction of breakwaters and canals and harbors?—A. Yes, sir.

Q. What?—A. I laid out the first channel on the Saint Clair Flats, under Captain Whipple, afterwards General Whipple, of the Engineer Corps; I was Government engineer in opening the channel through Lake George and Saint Mary's River, in Michigan; in the same connection, under General Whipple, I assisted in the construction of light-houses, as I was assigned to duty, acting as civil assistant in the Engineer Corps.

Q. I show you Exhibit A, purporting to be a copy of your certificate as engineer for the State in respect to the Portage Lake and Lake Superior Ship-Canal. Did you make the original certificate, of which that purports to be a copy?—A. I did.

Q. At what time?—A. October 18, 1873.

Q. At the time the certificate bears date?—A. Yes, sir.

Q. Prior to that time had you been engineer on this work on the Portage Lake and Lake Superior Ship-Canal?—A. Yes, sir.

Q. For how long?—A. I took charge there in 1869, and closed in October, 1873.

Q. In what employment were you?—A. I acted as special State engineer.

Q. What means did you take to determine the facts necessary to enable you to make that certificate?—A. I found that there had been an engineer appointed by the governor some two years before I took charge under Governor Baldwin, and that under the law of the State plans and specifications had been made and signed by the engineer, and also by the governor of the State.

Q. Have you seen those plans and specifications here?—A. Yes, sir.

Q. Are they the ones copies of which have been put in evidence?—A. Yes, sir.

Q. Now you may proceed. The question I asked was what means you took to ascertain the facts so as to enable you to make that certificate.—A. Those were my guides, my charts; I had to go by them. I acted also under the orders of the governor of the State of Michigan. I went up there and examined that work thoroughly. It had been progressing moderately for two years. I made all necessary examination into the canal. It was all laid out for me on the ground; and on the Lake Superior side, where the piers and breakwaters were to be constructed, nothing was done to show the soundings, or anything of the kind.

Q. You are speaking of the condition of the work when you took charge?—A. Yes, sir; I went to work. First, I made a hydrographic survey of the lake in front of the canal where it came into Lake Superior, preparatory to sinking cribs and building breakwaters.

Q. What year was that?—A. That was in the summer of 1869.

Q. Did you adopt the specifiations and plans that had been prepared by your predecessor, Mr. Green?—A. Yes, sir; of course. I was obliged to accept them. I would state here that the governor of Michigan, Mr. Baldwin, was very particular and precise that those specifications should be followed minutely, too minutely to suit me, because there were some defects in them; but the governor said that that was the law of the land, and I must follow them. I did, however, in the course of the work make some modifications where I found it was necessary. There is a saving clause at the end of the specifications saying, "As the engineer or governor shall direct." So that if anything was absolutely impossible to be done, or would jeopardize the work when completed, I felt safe in modifying it, and did so in several instances. But I adhered as closely as possible to the plans and specifications, and was obliged by the governor's instructions to go by the chart laid before me.

Q. State to the committee what you mean by modifications.—A. It is rather difficult to explain without one was on the work and knew the whole history of it. Lake Superior has a very stormy coast, and the original plans for breakwaters were very defective in this respect; that the piers were made to go out flaring, which was a fatal defect, in my judgment; because that shape of the piers would lead all the seas up into the canal. According to my knowledge in Government service, it has been found that the best piers possible for entering rivers and harbors are those which are as nearly parallel as possible, so that seas coming in at an angle would not rush up into the canal or river. Therefore I modified the plans by making the piers parallel. I found also that they did not go out far enough in order to defend the mouth of the canal properly, and so I put them out two or three hundred feet further on each side than the specifications required.

By Mr. PAYSON:

Q. Farther into the lake?—A. Farther into the lake. I put them in at 21 feet of water when the requirement was only to put them in at 13. According to the original plan, they would have come to a point; instead of having them come to a point, I put a header crib 30 feet wide right at the end, like an L, making something to defend that pier from the icebergs and waves coming in. Enormous icebergs form there in winter, and the seas beat against the piers, and they are required to be very strong. Then, coming into shore, these piers, according to the specifications, were to connect immediately with the dock inside of the pile. I found that that would not do; that the waves would destroy

that pile, and I had them dredge about three or four hundred feet into the prism of the canal and put crib-work in there and fill with stones. I went as far as I dared to go. It was very expensive work, and for the good of the canal it should have gone about 800 feet in from the lake shore; but still the work has stood very well; it has been filled with sand occasionally.

By Mr. McCARTER:

Q. Did these modifications increase or diminish the expense of construction?—A. They increased the expense largely.

Q. Over what it would have cost to adhere rigidly to the specifications as filed?—A. Yes, sir. There were other modifications at the turn-out, for steamers to pass and to lie in the natural pond. I dredged that longer and wider, and then towards Portage Lake the canal, instead of being 100 feet wide on the surface, was 120 feet on the surface between docks. At the entrance into Portage Lake I extended the docks out so as to give facilities for approaching.

Q. What is the name of that pond you refer to?—A. Lily Pond.

Q. I show you a drawing, and ask you if you recognize it; and if so, state what it is?—A. Yes, sir. I made annual written reports to the governor as to the progress of the work up to the date of the report.

Q. You did make annual reports to the governor of the current condition of the work?—A. Yes, sir; the annual progress of the work.

Q. Was the nature of this service such as to require you to be acquainted with its progress during the whole period covered by your employment?—A. Yes, sir.

Q. What are these drawings?—A. These are charts showing the progress of the work up to the date upon them.

Q. These inscriptions are correct, are they?—A. Yes, sir.

By Mr. VAN EATON:

Q. Did you make these?—A. Yes, sir.

Mr. McCARTER. The document is described as "Plans showing the progress and completion of the work on the 21st of November, 1871."

Mr. PAYSON. Do you intend to offer these drawings?

Mr. McCARTER. Yes, sir.

Mr. PAYSON. Then let them be marked.

(The drawings were marked Exhibits L and M.)

By Mr. McCARTER:

Q. These plans were made in the course of your official duties?—A. Yes, sir.

Q. And they accompanied your annual reports to the governor showing the condition of that work?—A. Yes, sir.

Q. Give a very brief description of those plans, so that the committee may understand what they represent.

Mr. PAYSON. Unless you deem that essential, I think they show on their face what they are, and they have been before the committee heretofore and been examined.

The WITNESS. They show for themselves.

Mr. REDINGTON. I do not think those maps were before the committee.

Mr. PAYSON. Just such maps were.

Mr. DAVIS. I had this paper before the committee, and said that these plans showed that there was 21 feet of water at the pier, but they were not submitted to the committee for examination.

Mr. PAYSON. I supposed the committee all looked at it.

Mr. DAVIS. No; they did not.

Q. Tell the committee how this plan differed in respect to the piers on Lake Superior from the plans as called for originally, and what you found in existence when you got on the work.—A. According to the original plan it was to start from the shore and go out.

Q. These piers diverge and do not run parallel?—A. They do not.

Q. They start at the same width of the canal?—A. Yes, sir. These are parallel instead of being splayed in that way.

Q. How long are they in the original plan and how long were they actually made?—A. I do not remember; it has been ten years, Mr. Chairman, since this work was commenced.

Q. It is put down 400 feet on that plan.—A. Then it would be about 900 feet.

By Mr. PAYSON:

Q. As constructed?—A. Yes, sir.

By Mr. DAVIS:

Q. The original plan was about 400 feet?—A. Yes, sir; I brought them out to 400 feet; on the west side I put them out further than the east side because the heavy seas came in there. I studied the condition of things there.

By Mr. McCARTER:

Q. In your reports made to the governor you showed the progress of the work from year to year?—A. Yes, sir; up to the last year.

Mr. REDINGTON. I object to any parol proof of what he reported to the governor.

Mr. PAYSON. I presume this is by way of anticipation or introduction, in order to show the accuracy of the reports; and in that view I think it is proper.

Mr. McCARTER. These reports are quite voluminous and we do not propose to ask the committee to consume the time necessary to enable the witness to swear to what they contain. We propose to put copies in, for the purpose of saving the time of the committee.

Mr. PAYSON. The committee will allow that as proper, reserving to the other side the right to cross-examine.

Q. Give the committee a general description of the character and magnitude of the work; I mean not in detail, but the nature of the ground through which it was made, the dimensions to which it was brought before it was finished, and generally the method of construction.—A. The canal was about 2 miles and 600 feet long; it commenced at the head of Portage Lake, continued on a tangent line about 5,300 feet through a cedar and tamarack swamp. There was a great deal of firm ground. It then followed up a small creek that wound its way through there and which was navigated in those days by canoes; it then came to Lily Pond, as we called it, a small lake filled up with lily pads; there was a small water-way through it, but in the main its surface was covered with grass and turf. Then we came to the section where the timber was tamarack; it was marshy, but gradually rising. Here we found in going down about 13 feet a mass of stumps and roots and timber, almost a solid mass as far as we went down. It was a very difficult piece of work, tearing a dredge terribly, and every stump and root had to be handled; they would get into the dipper, and we would have to get them out and put them out on the bank. When we got through the banks were lined from 15 to 20 feet high on each side with

timber and stumps. There was forest upon forest there. We found stumps 2 feet in diameter upon other stumps.

By Mr. SHAW:

Q. What kind of stumps? Had they been cut off?—A. No, sir; I mean decayed timber. Then we found the sandy section, which was a sandy ridge covered with Norway pines. That was the old historical Grand Portage Lake. There for nearly a mile we had to go from 20 to 46 feet deep; as we came near Lake Superior it was gravel as we got down, and near the lake the beaches were shingle and we came into hardpan, indurated clay, which was very difficult to handle; no ordinary dredge would handle it at all. The company built a dredge there for that purpose and it tore her all to pieces. The last year I suggested that that bottom might be blown up with nitro-glycerine, so we dredged a great many holes in the bottom of the canal, 3 or 4 feet of water, and dropped cartridges down in there and blew it up with electricity, and after soaking awhile we removed it. As we got into the lake we found this clay extending out, and as we dug down we found it was softer, but it was very favorable for the duration of the piers. These cribs were filled with stones and were sunk from 2 to 3 feet down in the clay, and passing there 10 years afterwards I found those cribs had not moved out of line. I do not know whether in the whole chain of lakes where there are any cribs, piers, and breakwaters that have stood so well, and I attribute it to the fact that we moved slowly in building, and thus they had time to settle, and the ice in the winter would sometimes be piled on them 20 to 30 feet deep and drive them down. After they got thoroughly settled we built the superstructure, and that brings us out in Lake Superior in 21 feet of water.

By Mr. MCCARTER:

Q. How was the channel of the canal itself constructed?—A. We built cribs outside, or piers, or breakwaters, 250 feet apart. Inside we built a dock; two rows of heavy piles were driven in more than 6 feet apart in front, and then 7 feet back we drove another row of anchor piles; then we tied the front piles to the anchor piles with ties, and put on the superstructure in front—square timber a foot square, I think; and behind this we drove sheet-piles, 4 inches thick, as close as possible, to keep the sand from getting in. That was the general character of the piles all through the whole canal, with some exceptions.

By Mr. SHAW:

Q. That would not keep out quicksand, would it?—A. No, it would not. We had not very much quicksand there.

By Mr. MCCARTER:

Q. How did you secure this at the bottom?—A. It was driven into the ground. The plan shows that there was a slope left outside of the docking.

Q. Look at this Exhibit F.—A. This shows a cross-section. The canal is 100 feet wide at this point [indicating], and about 80 feet here. Here is the sheet-piling behind this to secure it, and here is the end of the sheet-piling; and here is the berme.

Q. What purpose does this slope serve?—A. To give greater stability to the sheet-piling.

Q. Was that a proper mode of construction?—A. Yes, sir. It was necessary to have that in there in order to secure that. We had great difficulty in getting them down.

By Mr. PAYSON:

Q. This protection was on either side of the canal along its entire length?—A. Yes, sir; inshore, away from the water.

By Mr. REDINGTON:

Q. Do you mean the entire length of the canal?—A. The entire length of the canal, from where it joined the piers into Portage Lake.

By Mr. McCARTER:

Q. What pains did you take just before you made your final report to ascertain the facts necessary to enable you to make that report?—A. Of course, as engineer, I kept a close and sharp lookout all the way through; my lines were run all the way through with mathematical instruments, and I measured frequently to make corrections when putting in the docks to see that they were right, and gave the superintendent of the canal his lines to go by, and of course, when the docks were done, they were according to my directions. I followed those dredges weekly to see that the work was done properly. If I found by a leaky scow that the water was shoaled after it was passed, or if I found lumps or bars, I sent them back. That was during the last summer; but when the work was done, I examined critically from Lake Superior to Portage Lake by these soundings. I had a boat and men to row it, and a man that steered it, and I sounded it myself from day to day, taking my time, and took my notes from which to make the charts. We took characteristic selections from the bottom of the lake to give us the true bottom of the lake.

Q. At the time you made this examination and report, what were the dimensions of the canal as to width and depth?—A. Commencing at Lake Superior, systematically, the piers were 250 feet apart. Inside, at the water's surface, the canal was 100 feet wide. Following through the sand section down into the Lily Pond the turn was 200 feet to 250 feet wide for a long distance. Leaving the Lily Pond, going south, it was about 124 feet between docks for 5,300 feet, until near Portage Lake. As we neared Portage Lake I splayed the docks or piers there, because there was no sea and nothing to disturb the entrance, and so I made it as wide as possible into Portage Lake, 14 feet of water. The law required the depth of the canal to be 13 feet, but in a great many places the canal was 15 to 16 feet deep, and when I left it at no place could I find it less than 14 feet, and at the end of the piers it was 21 feet deep.

Q. What dredging was done between the point where the canal entered Lake Superior and the ends of the piers? What provision was made for the channel-way through that?—A. Digging out the full width of 250 feet as we there approached the piers, so that boats could lie at the main piers.

Q. At the end of the piers you say you made 21 feet; was that 21 feet done by dredging?—A. No, sir; that was the natural bottom of the lake.

Q. Can you give a general estimate to inform us about the expense of that entire work?—A. I know nothing about the figures.

Mr. PAYSON. I will suggest that the committee will not regard that calculation as to the expense as an important feature.

Mr. McCARTER. I asked this question because I did not know the range of questions that might be asked on the other side. The statement has been made that it was a mere perfunctory act.

Mr. PAYSON. For the present that may be omitted, unless you choose to put it in.

Mr. McCARTER. I do not wish to interfere with the direction of the committee.

Mr. PAYSON. You may ask or not, as you choose.

Mr. REDINGTON. I may say that we do not care whether it cost a thousand dollars or ten million dollars.

The WITNESS. I had nothing to do with the finances. Of course I do not know authoritatively anything about it, only from my own observation. But I should think that that canal cost altogether three million dollars; but that is only my own judgment about it. I do not know anything about it, of course.

Q. State generally the instruments employed, and the machinery, and means adopted by the company to do the work.—A. They had a large amount of machinery. In the first place, they had dredges, the number of which was increased to five, I believe; they had two locomotives in digging out the sand section; they had a train of dump cars; they had 100 horses; and they had pile-drivers, a large number of dump-scows, and three tug-boats, a wood-scow, and a timber-scow. They were very well equipped with machinery of all kinds necessary to carry on that work. Some of the machinery was very expensive.

Q. I think the work went into the hands of a receiver in May, 1872, did it not?—A. I believe so.

Q. Receiver for the bondholders?—A. Yes, sir.

Q. After that what supplies were furnished to you, or what directions were given to you by the person in charge of the construction, as to the kind of structure to be built?—A. I will state, Mr. Chairman, that the first four years that the old company were operating it, as an engineer I had a great deal of trouble with those people. Engineers have more or less trouble always in making contractors do their duty. I had a great deal of trouble in that respect. In fact, they ignored my authority. Mr. Woodward laid those piers on the original bed, commencing at zero, and expended a good deal building cribs two or three hundred feet out, and I condemned them. In the second place, in getting out material inside for the pilings, it was required that the pilings should be of different lengths, and that they should be twelve to fifteen inches in diameter at the foot, and not less than a foot at the small end.

Mr. McCARTER. I did not care to burden the committee with these details.

The WITNESS. This is preliminary. He got those out, large enough for fence posts on prairies. I condemned them, but he went on in the face of that, and drove them. After he had driven about a mile I made him pull them out. When the bondholders took possession, they said to me, "Now, Mr. Forster, we want to build this canal as rapidly as possible according to plans and specifications such as you may wish. We will instruct our superintendent here to observe your orders, and facilitate you in every way." So that, so far as that went, it was pleasant afterwards.

Q. You had directions to build according to your own ideas of what was best?—A. Those directions would not affect me. I was bound, as I stated, by my chart, though I could use my own discretion and judgment somewhat. My superior officer had said that I must adhere as closely as possible, but it was absurd almost to do it. Where I did vary from the specifications, it was for the good of the work. I will state that I am a citizen of that country and have large interests. I was one of the original suggestors of that canal, and we wanted good work done.

Q. Was the work up to the specifications, or in excess of them, or

how?—A. I think, taking the work as a whole, it was substantially done according to the requirements of the law, and, in some respects, better than the law required; in some places I am sure we had a greater depth of water. Depth of water is a variable thing, if you will allow me to explain it.

Mr. PAYSON. Certainly.

The WITNESS. In some of the lakes there are daily rises and falls of the water, annual rises and falls, and what we call cyclical, about twenty years. The daily change is owing to the winds, the waves, and barometric pressure, the atmosphere. With reference to the annual change, in the winter there is a great deal of evoperation on Lake Superior; in the early part of the winter it is covered with fogs, and the waters run down in the lake. In the spring we often find it from one to two feet lower than in the fall. But as the snows melt and the waters come into the lake, it gradually rises, until about the 25th of June it gets to its maximum. Then there is the great change which is going on all the time. To illustrate that, when I opened the Portage River at the further end, I put in a bench-mark, and I regulated those dredges every day by the bench-mark. If they found over 14 feet there, it would prabably be an error. In making that other Portage entry for the mining companies they wanted 10 feet of water. I said that would not do. Why? "Because the lake is falling, and if you have only 10 feet now, in three or four years you would not have water enough for your purposes." They said, "We have no more money to put in; go on and make it 10 feet deep, and when the time comes, if we can't get our boats in, we will dig it deeper."

Mr. PAYSON. That is not this canal?

The WITNESS. No, sir; and in three years the water had fallen just 37 inches. That illustrates the rise and fall of the lake. One day it may be 14 feet, and the next day it may be 15, or 16, or 13. In the locks at Saint Mary's the same difficulty occurs, and the Government party is going all through the locks and making it 16 feet water. That is because the commerce of the lakes is increasing, and it is necessary to facilitate navigation. Two thousand tons can now go through where formerly only 800 could, and Congress is making appropriations every year for that deepening.

Q. What was the standard Government depth at that time?—A. When I was on the Saint Mary's River the standard was 13 feet.

Q. The same as is specified in this act of Congress?—A. Yes, sir. But I dug it in the center down about 15 feet so that there would be no trouble about going in.

Q. What was the depth of the Sault Ste. Marie Canal when this canal was finished?

Mr. REDINGTON. How is that material?

Mr. PAYSON. That is hardly material.

Mr. MCCARTER. Then I have no more questions.

Cross-examination by Mr. REDINGTON:

Q. If I understand you, in all this work you were guided by the specifications that were made under the act of the State legislature?—A. That was my chart.

Q. Did you ever make any examination to see whether those specifications conformed to the provisions of the act of Congress?—A. No, sir.

Q. You simply took the specifications as you found them when you took charge of the work?—A. Yes, sir.

Q. They were your guide?—A. Yes, sir.

Q. You considered the work completed in accordance with law when it was completed according to those specifications?—A. Yes, sir.

Q. Did those specifications call for any breakwater on Lake Superior?—A. Yes, sir; what I regard as a breakwater.

Q. Be kind enough to show me that breakwater upon the specification or the plan. A. (Pointing.) These are the breakwaters and piers.

Q. When you speak of the breakwater you refer to the pier extending into the lake from the end of the canal?—A. Yes, sir; they are breakwaters when they are in that shape. They are made there to break the sea that comes in, as I explained in my testimony.

Q. Then, whenever you use the word breakwater in your testimony it is limited and confined to those piers?—A. Yes, sir.

Q. If I understand you correctly, you say that when you took charge of the work you found the plans and specifications providing for two diverging piers?—A. Yes, sir.

Q. That, in your judgment the objects of the act would be better accomplished by running them parallel?—A. Yes, sir; and that was the judgment of the governor also, upon my recommendation.

Q. In that respect, then, the specifications were changed after you took charge of the work?—A. Yes, sir.

Q. Is it your opinion, as an expert engineer, that parallel piers extending in that way afford a better entrance to the canal for vessels than piers diverging?—A. No; they do not; but at that width they afford an easier entrance; and, of course, if they flare out there will be no obstacle in the way until you get into the canal, but you would have no canal, for it would fill up immediately. As you go in to the lake shore the canal is only 100 feet wide, and there would be a difficulty to enter there as there would be to enter it out in the lake 900 feet; you would have the same difficulty there as out in the lake.

Q. Then it results that by a change in the plans and specifications as they came to you, irrespective of the question as to the depth of the canal and filling in, and all that sort of thing, a vessel could have entered the canal easier under the old specifications than it could under the changed specifications?—A. Of course, if they had proceeded a distance covered by the piers they would have had less difficulty in entering; but the moment they struck it where it was 100 feet wide they would have had more difficulty by the narrowness of the channel.

By Mr. PAYSON:

Q. These converging lines on the old plan and the parallel lines were only 100, whereas now they are 250?—A. Yes, sir. You would have worse difficulty, because you would have no room to back out.

By Mr. REDINGTON:

Q. Did you widen the end of the canal at the piers?—A. Yes, sir; I widened them some there in order to get those cribs in.

Q. How much?—A. I think 8 or 10 feet.

Q. But the width of the canal at the point where the piers joined was still 100 feet, with that slight addition?—A, Yes, sir.

Q. Tell me whether a vessel coming in between the piers diverging would have more difficulty in getting into a 100-foot entrance than it would between parallel piers separated at that distance?—A. No, sir; with the heavy northern seas blowing on shore there would be a heavy sea right in, up to the end. But by putting parallel piers before the water would get into the narrow part of the canal, it would be smoothed and comparatively calm by the time it reached the shore; the waters

would be a partial basin, as it were; these waves would be broken by the breakwater.

Q. In two parallel piers extending any distance into the lake, at the end of those piers there was a point where a vessel must enter. If the distance between those two parallel piers at that point was the same distance that existed between the two sides of the canal where it commenced, what reason could there be why a vessel could enter that spot at the end of the piers any easier than it could have entered if the piers were divergent?—A. It could not enter any easier if it was only 100 feet wide, and here it was 250, giving her room to go in and be in calm water.

Q. Then you extended the piers and made them parallel?—A. Yes, sir.

Q. That being so, you have a wider space at the end of the parallel piers, and the storm beats there with just as much force there as it would at any other point. Then the sole advantage of the change would be allowing vessels a wider distance between the parallel piers in entering the canal; is that it?—A. Yes, sir; that would give more room to get in.

Q. Suppose the piers had remained as originally made in the specifications, would there have been any more difficulty in entering between the ends of the piers than there was under the change?—A. No, sir.

Q. When a vessel reached the mouth of the canal, and was required to pass through a space of 100 feet, the advantage gained by the change of the specification was the quieting of the water from the ends of the piers?—A. Yes, sir.

Q. That was your object in making the change?—A. Yes, sir.

Q. Suppose you had constructed a breakwater across the mouth of that canal a considerable distance out in the lake, what would its effect have been upon the character of the water in a storm outside?—A. It might have made a lee there, but it would have made the canal more difficult to enter. That has been tried in Government service and abandoned.

Q. Then it is a fact that if a breakwater had been built across there it would have made a lee between it and the mouth of the canal, so that there would have been no difficulty in the vessel entering the mouth of the canal?—A. I do not say that. It would have increased the difficulty of the vessel entering the canal.

Q. How?—A. Sail vessels especially would have difficulty in turning that angle to come in; vessels have been wrecked by that fatal error.

Q. That is a difficulty of navigation, is it not?—A. I suppose.

Q. The moment a vessel gets around a lee coming in around the breakwater, it would reach comparatively smooth water?—A. It depends upon the length of the breakwater. If it makes a harbor it makes a harbor.

Q. Suppose you had constructed a breakwater of sufficient size and length to make a harbor of that kind, would there have been any necessity at all for you to change the specifications of the State?—A. I had no authority to do so.

Q. I am putting a hypothetical question to you. Suppose you felt yourself at liberty to have constructed that canal in accordance with a statute of Congress and irrespective of the instructions given you with those specifications, could you not have built a breakwater out there in the lake which would have made a harbor of refuge there, rendering it just as easy for a vessel to go into the canal under the old specifications as it was under the new specifications?—A. No, sir.

Q. Why?—A. There would be nothing at all to guard the mouth of the canal. In our digging the canal there the winds twice moved this shingle, and the waves and sand filled it up twice, and we had to build special cribs to protect it. Twice the dredges were shut up in there by the storm, and after they had got eight feet of water I walked across dry-shod. I do not care how much breakwater there is, you have got to stop the waves that beat on the shore of the lake; that is the object of these parallel piers.

Q. You have not answered my question yet. I am not talking about the protection of the canal at all. I am talking about the facility afforded to vessels coming into the canal when there is a proper depth there. If you had built such a breakwater in the waters of the lake at a sufficient distance from the end of the piers and of a proper height, would it not have been as easy for a vessel to enter the canal under the old specifications as it was under the new? Without reference to the protection of the canal at all, is not that the fact?—A. I do not think the breakwater would have done any good unless you were going to make a harbor.

Q. My question is based upon a hypothesis that the act of Congress did require a harbor there. Now, I am asking you if that is so whether you could not have constructed a breakwater out there that would have made a lee between it and the shore, under the protection of which a vessel could have gone into that canal, under the old specification with divergent piers, just as well as under the new specifications?—A. If they were sufficiently long piers to make a harbor and make smooth water there, it would allow them to come in, of course. The reason I built these piers parallel was to protect the canal and keep it from filling up. It was absolutely necessary to do that.

Q. You have had some considerable experience in making breakwaters. Are you familiar with the Government breakwater at Chicago?—A. Yes, sir; I know where it is and have seen it.

Q. Suppose you were to construct outside of the mouth of that canal such a breakwater as that at Chicago, would it not afford a perfect harbor of refuge into which vessels could have easily entered at the mouth of that canal?—A. They had the Chicago River to go into.

Q. You are an intelligent witness, and that is a plain question; please answer it.—A. That is coming back to the same proposition. If you make a harbor out there, of course that covers the canal.

Q. Then that would have been the effect of building a stone breakwater in that lake?—A. Yes, sir; building a harbor outside there the canal is easily accessible.

Q. Let me go a step farther. Suppose you had built such a breakwater there, would it not have protected the canal from the wash of this sand which fills up the mouth of it?—A. No, sir.

Q. Why not?—A. You cannot put a breakwater out in that lake. There are winds leading up and down the shore, and unless you begin at the shore they will not stop the drift of the sand.

Q. When the wind comes across the lake directly opposite the mouth of the canal that fills up the mouth deeper, does it not?—A. No, sir; the winds are nearly northwest and northeast; moving first up and then down, in constant motion, at that beach.

Q. Did I understand you to say, as an engineer expert, that such a breakwater as that built across the mouth of that canal would not have been practically a protection against this influx of sand?—A. No, sir; it would not protect it without those piers—breakwater and piers combined; it would not have kept the sand out of the mouth of that canal.

Q. You say that the depth of the water at the end of the piers was how much?—A. Twenty-one feet; that is the natural bottom of the lake.

Q. With two straight piers running out to a depth of 21 feet into the lake, will you tell me why it is that a storm or a wind coming directly across the mouth of the canal, from one way or the other, would not make a deposit of sand opposite the mouth of the canal at the end of the piers?—A. The waves move the sand down along the shore, and then at an angle up and down; when it meets a barrier like these breakwaters, it is deposited. The principle of putting this in 21 feet of water is that it would not move it further from the shore than that pier. I put it in 21 feet of water.

By Mr. PAYSON:

Q. The tendency being to deposit near the shore in shoal water?—Yes, sir. Waves, as is well known, to those familiar with them, do not affect the bottom very much at 21 feet of water.

By Mr. REDINGTON:

Q. Why would not the same effect be produced exactly upon diverging piers?—A. If you run them out divergent you have shorter piers, and it would fill up more rapidly.

Q. Then the extension of the piers gives additional security against these deposits?—A. Yes, sir.

Q. The divergent piers would be just as much protection as the parallel piers, except that the parallel piers are longer?—A. Yes, sir; as far as they went. The divergent piers would lead the water into the canal, while the parallel piers would not, to such an extent.

Q. Would it lead the sea in that comes across the mouth of the canal?—A. At certain angles it would lead it in, and then it would strike on the opposite side with great force.

Q. What would have been the cost of establishing a breakwater opposite the mouth of that canal of the character that I referred to, as compared with the additional cost put upon the company by the amended specification?—A. It depends, in the first place, upon where you build your breakwater, what was the depth of the water, and what was the length of the breakwater. The depth increases the cost of the pier greatly. I think it would have required from $75,000 to $100,000 to put a breakwater outside that would have been of any use.

Q. What was the additional cost of extending the piers under the amended specifications?—A. I don't know exactly; from $10,000 to $20,000, perhaps.

Q. Then, by the addition of $50,000 or $60,000 to what was really expended in addition to what was originally required there could have been such a breakwater constructed in the lake; is that so?—A. Yes, sir; there could have been a breakwater constructed at a cost of $75,000 to $100,000, perhaps. But, as I stated before, it would be money thrown away. They built a similar breakwater at Duluth under a Government engineer, and the first heavy storm that came, it toppled over.

Q. The work done there at that point did not make a harbor of refuge?—A. No, sir; only as allowing them to come in and get into Portage Lake; that is a very fine harbor.

Q. Portage Lake is a natural harbor. The canal has always been satisfactory to navigators, has it?—A. I suppose generally so. I have heard a great deal of growling about the depth of the water, but that I expected.

Q. Have you heard any growling with reference to facilities of getting in at the mouth of the canal?—A. No, sir.

Q. Did you know that that was the subject of application to Congress for an appropriation to build a harbor of refuge at that point?—A. No, sir; I know that appropriations have been asked for, but I did not know that that was the ground.

Q. Are you conversant with the report of Major Robert, made in 1879?—A. I know him very well.

Q. I speak of his report.—A. I glanced at it yesterday.

Q. Prior to yesterday had you any knowledge of such an investigation having been made?—A. No, sir.

Q. Then it is not within your knowledge as a matter of fact that that canal has not served the purposes of navigation in allowing vessels a harbor of refuge, and that an appropriation has been asked for that purpose?—A. No, sir. When I left the work there, from the nature of things, the running in of sand, &c., it would require dredging. At the great work at Saint Clair Flats under the Engineer Corps the same thing is occurring, and there they have all the modern appliances in engineering skill.

Q. Major Robert reports in 1879 that the difficulty at this point was that experienced at entering the mouth of the canal. Looking at Major Robert's report, and your memory being refreshed thereby, are you still of the opinion that there was plenty of facility for getting into the canal?—A. Yes, sir; contrary to Major Robert's opinion.

Q. Do you agree with Major Robert with respect to the comparative value of parallel and divergent piers?—A. I don't recollect. I only glanced at his report; I did not see what his theory was. He proposed to make a harbor of refuge by simply extending the piers out into the lake, probably. That is the way I understood, and that is essentially my own plan. He would extend that into the lake further by going outside and connecting with my pier at right angles, and then get a wider space between the piers in the deeper water. That is the way I understand it, and it would be an excellent plan to do that, much better than to simply break water away out in the lake.

Q. Major Robert says—and I read from his report—

> The entrance of the canal is 250 feet wide, with only 12 or 13 feet of water at the end of the piers.

Are those the same piers at the end of which you left 21 feet of water?—A. Yes, sir.

Q. Tell me how that came to be filled up between 1873 and 1879 in that way?—A. No, sir.

Q. You do not know?—A. I do not know, because I have not been on the lake.

Q. Can you give any theoretical explanation of it?—A. The only theory of it is that some of it came down out of the canal, and some of it worked around the head of the piers; that is the only theory I can give.

Q. Then the work that you built was not a protection of that canal against such a result, it would seem?—A. If the report is true, why, it was not that complete protection.

Q. Have you any information that the report is not true?—A. Not at all; I know nothing about it. I do know, however, that some reports are signed officially by the engineer when he never makes an examination himself, that being done by his assistants. I have known of cases of that kind, where, upon application to have work done, the chief engineer has sent his assistant there at Portage Lake.

Q. Do you mean to say any such thing as that in respect to this report?—A. No, sir.

Q. Then there was a change of from 6 to 7 feet in the depth of the water at the end of the piers between 1873 and 1879?—A. I do not know it.

By Mr. PAYSON:

Q. Assuming this report to be true?—A. Yes, sir; according to Major Robert.

By Mr. REDINGTON:

Q. Was there anything to account for that in any of these great changes in the depth of the water of Lake Superior that you have spoken of?—A. No, sir; I think not.

Q. Adverting a moment to that question, are those periodical changes that you speak of different from year to year? Is the lake higher one year than another?—A. Yes, sir.

Q. What is the theory of that?—A. We have, as I said, daily and annual changes, and then these great changes that make a difference of about four feet.

Q. In how many years will it vibrate four feet?—A. That is a question belonging more properly to meteorology; but from the facts that we can gather, it would take about 20 years to do that.

Q. What is the cause? Is it a permanent lowering of the body of water?—A. Yes, sir.

Q. Then the lake, in your opinion, and according to your theory, is gradually growing smaller in dimensions on that account?—A. No, sir; it rises. I say there is a vibration; it goes down through a certain period of years, and then rises again.

Q. What causes that?—A. No one knows; it has not been settled.

Q. Does anybody know the period to a certainty?—A. No, it has not been fixed; but we all know the fact that it does rise and fall during a series of years.

Q. Do you know what the condition of the lake was in 1873 with reference to these periodical disturbances?—A. I don't remember now; it has been a good many years; I had bench-marks there; but I think it was about an average height when we were working there.

Q. Assuming that Major Robert's report is correct as to the depth of water which he found there in 1879, do you still maintain that your work at the mouth of the canal was a protection to the canal as to the depth of water?—A. I suppose 21 feet would be ample protection. That was my judgment at that time from my experience in other works of a similar character.

Q. As to the result, do you still maintain your opinion that that was all that was necessary to do to protect that canal and maintain a proper depth of water?—A. If it is too shoal at the mouth to allow vessels to go in it was not a sufficient protection.

Q. Then, if Major Robert's report is true, the work as constructed is not such a protection as you intended it should be; is that right?—A. Well, yes, sir; if it allows sand to get around there it is defective in that respect, and the piers should go out further.

Q. You still say in your judgment that if they had built a breakwater at the mouth of the canal opposite, that would not have prevented this trouble?—A. No, sir; it would not; the sand would travel down the beach and fill that up.

Q. Whether the piers were divergent or parallel?—A. No, sir; it would not make any difference. The shorter the piers the sooner it would fill up.

Q. Can you tell me how it is that a storm traveling down the lake at right angles to the mouth of the pier will deposit sand inside the pier? —A. The wind moves the sand along either east or west until it strikes the barrier, and then it stops and fills in and gradually works out, and if that barrier does not extend far enough out into the lake, it will finally work its way around.

Q. Will that occur where the storm strikes the pier at right angles? —A. Yes, sir. There is scarcely any wave that will come upon the beach that will not move sand.

Q. Then there is no pier that you can construct that will be an absolute protection?—A. O, yes; we could run it out into the lake from 30 to 50 feet further, and that would protect it.

Q. But that is the only way?—A. That is the only way I know of.

Q. What was the date of the last annual report that you made to the governor while working there?—A. January, 1872.

Q. Did you make any in 1873?—A. I did not.

Q. None in December, 1873?—A. No, sir; the work was stopped on the 18th of October, 1873.

Q. You made no report?—A. I was not required to do so.

Q. Why did you stop at that particular time?—A. Because the governor did not require it, and the work was finished. If I had gone and made a complete chart and report it would have required from four to six weeks, and I did not see any way for me to get my money for that work, and I did not propose to work for nothing.

Q. Had the governor instructed you to make these reports regularly while the work was going on?—A. No, sir; he never gave me any instructions at all in regard to that.

Q. Then you did it of your own volition?—A. Yes, sir; for his information.

Q. For how many years?—A. For several years; I will say three years.

Q. You made no special report to the governor last year?—A. Not a special report, but a verbal report, and we talked it all over some.

Q. The fact I am getting at is simply, did you make any annual report for that year?—A. I did not.

Q. That was the year in which you certified that the canal was completed according to the specifications?—A. Yes, sir.

Q. When you went to the governor and informed him that the canal was completed, you did that verbally?—A. Yes, sir.

Q. All the work done in previous years you had certified to in writing?—A. Yes, sir. But under that law I was independent of the governor in regard to certificates. The law required that I should certify that that work was done, and then that the governor should also.

Q. Still you took it upon yourself to report progress to the governor?—A. Yes, sir; for his information.

Q. When did you make these soundings in that canal?—A. I sounded every few days all the season of 1873, and followed up the dredges to see that they did the work well.

Q. What part did you do yourself in the soundings?—A. All.

Q. Did you sound, yourself?—A. Yes, sir. I ran parallel lines, and then zigzag in every possible direction.

Q. What was the depth of water in the canal as ascertained from those soundings?—A. From 14 to 16 feet.

Q. Over the entire surface of the canal between the banks?—A. According to those specifications.

Q. Banks of the canal?—A. I don't know what you mean by banks.

Q. Pilings?—A. I didn't carry deep water to the sheet-piling.

Q. That is the question I put. How far over the middle of the channel did you make soundings?—A. About 80 feet over the bottom of the channel.

Q. Do you mean to say that at that time that canal was over 13 feet deep for 80 feet in the width throughout its entire length?—A. Yes, sir.

Q. What was the depth from the 80 feet in width to the sides?—A. They gradually sloped up from that depth to about 8 or 9 feet.

Q. Do your plats show that?—A. No, sir; not the soundings.

Q. Is there any plat here which shows those soundings?—A. No, sir. I have got one a year later.

Q. Accompanying that transaction with the governor in 1873, do any of these plats here show the soundings which you took?—A. No, sir.

Q. Are they on any plat that has been introduced in evidence?—A. No, sir.

Q. And they are not reported in writing?—A. No, sir.

Q. You speak of this sheet-piling along the sides of the canal; was that in good condition?—A. Yes, sir; I so considered it.

Q. Do you know what condition it is in now?—A. No, sir; I have not been there for five years, I believe; not to examine the work critically. I have passed through in summers, but have not had anything to do with the canal for ten years.

Q. And you know nothing about the condition of that sheet-piling since?—A. No, sir; not of my own knowledge.

Q. Did you see the canal at all during the summer of 1874?—A. I was up the canal on a picnic that year, I believe.

Q. Were you there during 1875?—A. I don't remember.

Q. Do you know whether any work was done on that canal during 1874 and 1875?—A. My office is in Houghton, and I know that Mr. Prior, the superintendent of the canal, did work there; I saw him fit out his dredges, saw him take them there, and saw him work there.

Q. What year was that?—A. The first year, and perhaps the second. I know that he has conversed with me and told me——

Q. Never mind what he told you. To your personal knowledge, then, work was done there by Mr. Prior after 1873?—A. I know that he dredged there; that is all I know.

Q. The governor's certificate as to the condition of this canal was made in 1875, was it not?—A. Not that I know of.

Q. Do you know what date it was made?—A. I think he made it in 1873, after I made mine; that is my impression.

Q. Are you certain about that?—A. No, sir; I did not see him make it.

Q. Have you any knowledge?—A. No, sir; I don't know anything about it. I know the general fact that he certified after I did.

By Mr. PAYSON:

Q. Is the general character of the soil along the canal and on the shore of Lake Superior such as to require dredging in order to maintain this continued depth of water?—A. Yes, sir; very likely, unless those piers were to go out an enormous length into the lake. This sand and shingle where the canal comes out into the lake shifts a good deal, and the mouth of the canal has been filled in. In former days there was a water-way there, but these sand-banks have filled up and made that

bar two miles wide between Portage and Lake Superior. We found evidence of that in the timber that we dug out.

Q. From below the soil?—A. Yes, sir; from 20 to 25 feet below.

Q. The character of the soil between the shore of Lake Superior and Portage Lake is such that the probabilities would be that there would be a deposit of material which would be required to be removed by dredging in subsequent years.—A. Yes, sir; I stated that to the superintendent that was there afterwards. Said I, "It is very likely you will have to dredge here for two or three years yet until this thing gets settled." It is a shifting sand-bank there which has been finally covered with a growth of Norway pine and huckleberry brush.

By Mr. REDINGTON:

Q. Who accompanied you upon your examination of the canal which you made in the fall of 1873?—A. I accompanied myself.

Q. Was nobody with you?—A. No, sir. I made my own examination. There were other gentlemen there who were sent by the governor, and to them I submitted plans and specifications, and offered all the facilities in my power to enable them to examine that work critically. But I made my own examination and upon my own personal responsibility.

Q. Among the exhibits offered this morning is a letter from Mr. Samuel Wright to Mr. C. E. Holland, in which he states that on the 13th of October, 1873, he accompanied you through the canal.—A. Yes, sir; I took him on a tug.

Q. Your examination was made at another time, was it?—A. As I say, my examination was made all through the summer. For instance, we began in the spring at Portage Lake with a great rotary dredge, and swept up the canal, and I watched that every day, as well as other dredges at other points. I was constantly taking soundings and following up this work, as it was my business to do.

Q. Perhaps I do not understand you. Did I understand you that before your certificate you made an examination of this whole canal?—A. Yes, sir.

Q. This was a different occasion from the occasion spoken of by Mr. Wright?—A. Yes, sir.

Q. Afterwards, or at some other time, you went through the canal, accompanied by Mr. Wright, on a tug?—A. I took Mr. Wright on the company's tug up on the work. He was the agent of Mr. Holland, Mr. Holland being the agent of the governor to examine that work. I tendered all the civilities of the company to him, and I may have gone with him an hour or two, but not more, because I wanted him to examine that aside from me, so that his report might not be affected by my presence in any way.

Q. Were you present when Mr. Wright took the soundings?—A. I saw them taking soundings.

Q. Did you see Mr. Wright take any soundings?—A. I do not remember that.

Q. Who did take them?—A. I don't know who took the soundings; whoever he was, he was with Mr. Wright in the boat.

Q. And you were there too?—A. I was there for a time, as I say, but I left them to pursue the examination without my presence.

Q. And, so far as you know, Mr. Wright took no soundings?—A. Personally I did not see him take any. He was in the boat, and was one of the sounding party; it was not necessary for him to use the sounding pole or line.

Q. I did not ask whether it was necessary to do that; I asked whether, as a matter of fact, you saw him?—A. I do not remember seeing him use the sounding-pole.

Q. In this certificate of October 18, 1873, you certify that the Portage Lake and Lake Superior Ship-Canal is completed according to law. Did you mean according to the specifications given you under the State statute?—A. Yes, sir.

Q. You do not assume in this certificate to say that it was completed according to any of the requirements of the act of Congress?—A. No, sir; I knew nothing about that.

Q. You further certify that the canal and breakwater are completed; that is, the breakwater at the mouth of the canal?—A. Yes, sir.

Q. That is what you meant?—A. Yes, sir.

Redirect examination by Mr. McCARTER:

Q. Returning to your knowledge of the plan for the piers at the end of Lake Superior, what was your judgment, treating it as a whole work, and having in view the ease of entering the canal and the maintenance and future preservation of the work? What is your idea of the comparative merits of the plan you adopted and the former plan?—A. Of course, my plan is the best.

Q. That was your judgment at the time?—A. Yes, sir.

Q. Have you seen any reason to change your judgment on that subject?—A. No, sir.

Q. Give the committee some idea of the character and violence of the storms that prevail in that region of country.—A. During the summer months it is a calm lake, but after the 25th of August it begins to blow from the northwest and northeast. It is a great lake, and the storms are very severe. The waves act with great force upon the shores. In the fall and winter the ice forms in great packs and floes and drifts about, and sometimes when the north wind blows with great force the ice is cast against the shore and against these piers with great force. Those ice-floes move with damaging force against any obstruction. The storms are so severe in the winter before the lake becomes filled with ice that it sometimes piles up the ice along the beach 20 or 30 feet high. The lake, being spring water, does not vary more than about 10 degrees in the year. It throws off a great deal of heat in the winter, and there is a great fall of snow.

Q. You were not there with Major Robert when he was there?—A. No, sir.

Q. His report is dated December 15, 1879, six years and more after the completion of the canal. You were asked a question which assumed that Major Robert's account was true that there was only 12 feet of water in the canal at the place where the piers entered the lake.—A. At the terminus of the piers.

Q. Suppose it should turn out on inspection of Major Robert's report that the 12 feet of water he refers to is not in the channel which leads to the canal and harbor, but is at the foot of the piers; what effect, if any, would that depth of water have upon the means of entering the canal?—A. It would not affect the canal.

Q. I now show you a copy of Mr. Schermerhorn's map which accompanies Major Robert's report.

(The map was marked Exhibit N.)

By Mr. PAYSON:

Q. Among the engineers what would these figures on this map indicate?—A. So many feet to the bottom.

Mr. PAYSON. If there is no question about this being the map referred to in the report of Major Robert, it will be so assumed for the present.

By Mr. McCARTER:

Q. Was there any current through the canal, or anything which would carry *débris* or sand in or out of the canal in the ordinary operation of natural causes?—A. Yes, sir; at times there would be a great rush of water in, at the rate of 5 or 6 miles an hour, and then out again. Especially would that happen sometimes some hours before a storm would arrive. The waves would rush in with great force and out again, sometimes impeding the work. That is caused, we suppose, by barometric pressure in some distant part of the lake crowding the waters off. It is a very singular phenomenon. In the spring, when Portage Lake fills up with water from the melting snows, there will be a deep current clear through that canal out into the lake, and you can see the water from the canal some distance out into the water of Lake Superior, there being a difference in the color of the two waters. The color of the Portage Lake water was brandy color, from the roots in the swamps, and you can see it a long distance out.

Q. Do you know whether, when this rush of water comes in from Lake Superior, there is sand held in suspension in the water itself?—A. No, sir; I do not think there is any at the top of the water.

Q. I mean as it comes along the shore?—A. Yes, sir; the current rushes in on the sandy bottom, and it will move that sand backwards and forwards.

Q. And mix it up with the water?—A. Yes, sir; that is natural.

Q. The act of Congress which has been alluded to by the counsel who cross-examined you requires that the canal should be not less than 100 feet wide and not less than 13 feet deep. What would you say, as an engineer, as to whether this canal complies with those requirements? A. It does.

Q. What do you mean by saying that it was 80 feet wide at the bottom?

Mr. PAYSON. We understand that. The cross-section shows that. The view of the cross-section makes that as clear as any verbal explanation could.

The WITNESS. Take the dock on each side, and it makes 120 feet on top of the slope.

Q. Ordinarily, canals are constructed by excavations merely, and on a slope, without sheet-piling, are they not?—A. If they are very high banks you have got to secure them some way.

Q. What is the body of the canal called in engineering parlance?—A. The prism.

Q. And it is prismatic in shape, is it not?—A. Yes, sir.

Q. At or about the time this canal was finished, or shortly after, was any other inspection made of it by any officers of the government that you know of, other than those who certified here?

The WITNESS. The Government of the United States?

Mr. McCARTER. No, I mean the government of the State of Michigan —A. No, sir.

Q. Do you know whether the legislature visited it?—A. The legislature usually takes a bout up there about once in two years.

Mr. REDINGTON. We will concede that they had a bout there.

The WITNESS. They went up there under the guidance of the governor, and went through the canal, and the work was pointed out to them.

Q. When was that?—A. One time while I was engineer, and after the work was completed; and I think, maybe, the last year there was an examination of that kind; there was an examination last year.

Q. I was asking with reference to about the time when this canal was finished, whether there was such a legislative excursion through the canal.—A. Yes, sir; with the governor at the head of it.

By Mr. REDINGTON:

Q. This legislative body took no soundings on that excursion?—A No, sir; not any.

By Mr. McCARTER:

Q. What was the height of the superstructure above the surface of the water?—A. Twelve to 14 feet.

Q. That is above the cribs?—A. Yes, sir.

By Mr. REDINGTON:

Q. Did the legislature certify to anything, so far as you know, when they got through?—A. They decided that we were pretty good fellows up in that country.

By Mr. McCARTER:

Q. I think you did say that these piers were crib-work and filled in with stone?—A. Yes, sir.

Q. Be kind enough to describe with a little more fullness how they were set in place.

Mr. PAYSON. The witness has been very definite in regard to that.

Mr. McCARTER. Then I have no more questions.

By Mr. REDINGTON:

Q. One more question with reference to this 80-foot channel you speak about. Have you any map or anything showing that channel in 1873?—A. Not in 1873—1872. I say I did not make any repor—at least, I was not required to—and there was no pay in it. I did not see how I was going to get pay for it, and therefore I did not make it.

By Mr. PAYSON:

Q. As a matter of definition, I want to ask you whether a work built out into a lake at right angles to the shore, as in this case, would be called a pier, or whether it would not be technically called a breakwater as well?—A. It is a breakwater and pier both; it has a sort of composite nature.

By Mr. REDINGTON:

Q. Is that the universal acceptation of the term among engineers?—A. Not universal.

Q. Do I understand you to say that that word breakwater has a peculiar signification in engineering that will be supplied in every instance by a pier running out?—A. Yes, sir; a pier running out simply is a breakwater.

Q. And that that is the technical use of the word in engineering?—A. Yes, sir.

Q. And that pier built in that way will answer the technical use of that word in engineering?—A. Yes, sir. At the lower end I simply ran out one pier. At the Portage end of the lake I simply run out one breakwater and pier on the windward side, and that has been effective for twenty-one years.

By Mr. PAYSON:

Q. And that was built substantially at right angles to the shore?—A. Yes, sir.

By Mr. REDINGTON:

Q. That is to say, you constructed such a pier as that at that place which operated to your satisfaction in preventing a deposit of sand; is that it?—A. Yes, sir.

Q. How did you come to build that work you speak about; under what authority?

The WITNESS. At Portage River?

Mr. REDINGTON. Yes.

A. Under the authority of the mining companies on Lake Superior.

By Mr. PAYSON:

Q. It was not a public work?—A. No, sir. At Dunkirk and Buffalo they are called piers; but they are not piers, they are breakwaters.

CHARLES E. HOLLAND sworn and examined.

By Mr. MCCARTER:

Question. Where do you live?—Answer. At Hancock, Mich.

Q. What is your age?—A. Nearly forty-nine.

Q. Where is Hancock located with reference to this ship-canal?—A. It is located on the shores of Portage Lake, I should think 8 miles from this canal.

Q. You made a certificate, dated Hancock, Mich., October 15, 1873. How did you come to make that certificate?—A. I made it on the request of the governor to examine the canal and report to him as to whether it was then completed according to the contract and specifications made with the State.

Q. Were you an engineer?—A. No, sir.

Q. What were you engaged in at the time?—A. I was then, as now, the president and manager of the Mineral Range Railroad Company.

Q. In what state of forwardness was that railroad at that time?

Mr. REDINGTON. Is that material?

Mr. MCCARTER. It is merely introductory.

Q. Were you engaged in its construction at that time, or had the work been completed?—A. I think we were engaged in construction, and the road was opened finally to Calumet, the objective point, perhaps later in October than this date.

Q. Have you any connection with the canal company?—A. No, sir.

Q. And your selection was by the governor?—A. By the governor.

Q. What did you do yourself with reference to getting information on which you made the certificate?—A. I visited the canal and passed over that portion of the work that could be seen above the water; as I was very much engaged at the time with this railroad work, and as Mr. Samuel Wright was my engineer in charge of the railroad work, I selected him to go into the details of the examination, as being an engineer who would be more conversant with the terms used in specifications than I would myself; consequently, I delegated to him the work of examining in detail the specifications and comparing the same with the work as it then stood, and also the work of sounding the canal to learn the depth of the water.

Q. What connection had Mr. Wright with the canal company?—A. None whatever.

Q. Entirely independent?—A. Entirely independent.

Q. Did he make the examination as you requested?—A. I think he did.

Q. You made the certificate which is printed in this book at page 27, and you have seen your certificate?—A. Yes, sir.

Q. At the time you made it, what have you to say as to your confidence in its correctness and truth?—A. I think it is entirely correct. The intention was to have it exactly correct and conform to the facts as they existed at that time.

Q. What interest had you in the subject of the completion of that canal?—A. No personal interest. As a citizen of long residence in that country, and recognizing the importance of the canal, and the importance of having it completed according to the specifications, so as to admit of vessels passing from Portage Lake to Lake Superior, and the reverse, I had an interest, just as much interest as any citizen would have in seeing a work of that kind properly completed.

Q. Did you exercise your best judgment in seeing that that was done?—A. Yes, sir.

Cross-examination by Mr. REDINGTON:

Q. You made no personal inspection of the canal except what was apparent above water?—A. No, sir.

Q. Did you go with Mr. Wright to the canal when he went there?—A. This matter occurred so many years ago, and it was simply a collateral matter with me, but at the time I was conversant with all the facts necessary to make the report to the governor that I did make. But upon comparing notes with others who were there, I am led to the conclusion that Mr. Wright first went to the canal on one day and commenced his examination, and on the next day I went there with him. I seem to have in my mind a recollection of the work that they were at on the second day, which was completing the soundings of the canal.

Q. You say in your letter to the governor:

> I have been unable to examine the details of the work in person, owing to the pressure of other business.

That is undoubtedly a correct statement, as made at the time?—A. Yes, sir.

Q. And the fact is that Mr. Wright was the one who actually made inspection of the canal, so far as the details are concerned?—A. So far as the specifications are concerned; but as to the condition of the work I was perfectly conversant with it myself; but I mean thereby that he was careful to examine the specifications and examine the work to see whether it came up to the specifications.

Q. What you say in your letter is "the details of the work."—A. I understand, sir.

Q. You say in your letter to the governor:

> I have been unable to examine the details of the work in person, owing to the pressure of other business.

A. Certainly.

Q. That was a correct statement, I have no doubt, of the fact at the time; you would not at that time have been apt to make a mistake as to the examination of the details of the work?—A. No, sir.

Q. Then we must take the statement in the letter as correctly representing the condition at that time?—A. As qualified by my statement that I was on the work and examined it as far as it could be seen above water, and also as being more or less conversant with works of that kind that I have seen. It seemed to me to be completed in a workman-

like manner; but in order to determine whether it was completed according to the specifications, I detailed Mr. Wright to make a special examination.

Q. You never made any examination in person except by going over the canal and looking at it?—A. I was on that work very often during its progress.

Q. I mean at the date of this certificate, did you make any examination of the canal except by passing over it in a boat?—A. I think I spent the greater portion of the day there on the shore.

Q. Looking at the general character of the work on the canal as one would pass through it?—A. More than that.

Q. In what respect?—A. As I remarked before, I do not recollect how long a time I spent there, but I was there and I passed through the canal; I do not know now whether I passed through it in a row-boat or in a tug. I remained there during the completion of the examination by Mr. Wright; during that time I was probably on the shore somewhere. But my acquaintance with the work began with its commencement, and I knew the work and had been upon it several times during the period of its construction, and I was very well conversant with it without going on the work at all.

Q. You also say in this report of yours to the governor:

I find also that the work in many respects is very much better than the specifications demand.

A. Yes, sir.

Q. That was made upon the information given by Mr. Wright, was it not?—A. Yes, sir; not only from the statement of Mr. Wright, but I presume from the statement of the chief engineer.

Q. It was not upon any personal inspection or comparison of yours with the specifications, was it?—A. No, sir.

Q. The general fact is that this certificate here, so far as it is a technical certificate that the work was completed according to the specifications, was really made upon the examination and statements made by Mr. Wright; is that so?—A. Largely so; at the same time, as I said, I was upon the work. I recollect the work of sounding and how it was done. It is not necessary for a man to actually handle the sounding pole in order to tell if that pole is marking 16 or 20 feet of water, if he sees it go down perpendicularly.

Q. Did you see that in connection with the soundings made by Mr. Wright?—A. Yes, sir.

Q. The entire length of the canal?—A. No, sir.

Q. What length of the canal?—A. I could not tell you.

Q. Did Mr. Wright make soundings at all?—A. I think that would be a proper question for Mr. Wright to answer.

Q. You say you saw the soundings made?—A. I saw the soundings made. My impression is they were made by a person in the bow of the boat, Mr. Wright being in the boat at the same time.

Q. You do not recollect whether it was a tug or a row-boat?—A. It was a row boat; you could not sound very well from a tug.

Q. You said before that you did not know whether you passed through on a tug or in a row-boat.—A. That was when I passed through the canal. Taking the soundings was another occasion.

Q. You did not see Mr. Wright make any soundings at all, did you?—A. I do not recollect that I did.

Q. Who was the man that made the soundings?—A. From recollection, I could not state; but still I think I know who he was.

Q. It was not Mr. Wright?—A. I do not recollect. I want to correct myself there. If you want positive recollection, I make no answer to either question, whether it was Mr. Wright or some one else.

Q. Mr. Wright was an engineer in your employ on the railroad there?—A. Yes, sir.

SAMUEL WRIGHT sworn and examined.

By Mr. WRIGHT:

Question. Where do you live?—Answer. Columbia, Lancaster County, Pa.

Q. What is your age?—A. Fifty-five years.

Q. What is your profession?—A. Civil engineer.

Q. How long have you exercised that profession?—A. At intervals for twenty-five years; for the past nineteen years, certainly.

Q. You were employed in the construction of the Mineral Range Railroad in 1873?—A. Yes, sir.

Q. Did you make an inspection of the Portage Lake and Lake Superior ship canal?—A. I did.

Q. Under what circumstances?—A. I was requested to do so by Mr. Holland in his place.

Q. What was your employment at the time?—A. I was engineer in charge of the location and construction of the Mineral Range Railroad.

Q. Did you make the certificate which is printed here, dated October 15, 1873, a certified copy of which has been put in evidence?—A. I did.

Q. What did you do before making that certificate to qualify yourself for making it?—A. I either examined the specifications thoroughly or I had them in hand, I am not positive which. The specifications were given to me either directly by Mr. Holland or by Mr. Forster, probably Mr. Forster; and I either went over the specifications with Mr. Forster or I had them in hand or kept them with me when I made the examination, I am not positive which.

Q How did you make the examination?—A. My recollection, except as to the soundings, is very indistinct. I am satisfied from my certificate that I made a thorough examination. My recollection of the soundings is distinct. I was in the row-boat with Mr. Muloch, the superintendent, and an oarsman; we were pulled slowly through the canal, sounding thoroughly. He had the sounding pole, with a perceptible mark at the requisite depth; I do not pretend to recall whether that was 12, 13, 14, 15, or 16 feet; but whatever it was, it was accurately measured, conspicuously marked on each end of the pole, and measured from each end of the pole. Mr. Muloch sounded from one side and then from the other. I kept my eye on the pole. That was the method of sounding, and it was done thoroughly throughout the entire length of the canal, and I found the requisite depth of water.

Q. Do you recollect any other particulars or details of the examination?—A. None whatever.

Q. What can you say as to the extent of the examination you made in order to qualify yourself to comply with Mr. Holland's request?—A. I spent the greater part of two days there. My present recollection is that the soundings were suspended in order to relieve the gentleman using the sounding pole, on account of fatigue—it is very fatiguing work—and during the rest of the time, of course, I made an examination of the rest of the work, but how I did it I cannot recall.

Q. You did, however, qualify yourself to make the certificate?—A. Thoroughly. I gave it a thorough examination from end to end. My

object was to enable me to say to Mr. Holland that the work had been done properly, if that was the fact, so as to enable him to make a proper report.

Q. Were you connected with or interested in the canal company?—A. In no way whatever.

Q. Nor were you selected or employed by the canal company?—A. No, sir.

Q. Nor otherwise than by Mr. Holland?—A. By Mr. Holland.

Q. Have you any doubt as to the correctness of the fact certified by you at the time?—A. None whatever.

Q. You are now a resident of the State of Pennsylvania; where did you reside then?—A. My headquarters were in Hancock, but I was over the entire length of the road some 30 to 40 miles.

Q. Were you a resident of Michigan?—A. Only temporarily; I was there part of two years.

Cross-examination by Mr. REDINGTON:

Q. When you wrote this letter to Mr. Holland, why was it that you did not state the depth of the water in the canal?—A. I do not know; there was no special reason that I am aware of.

Q. Have you any recollection now what you meant by saying "complete depth of water in the channel," whether it was 10 feet or 40 feet?—A. I know from recent conversation and from the testimony of Mr. Forster that the required depth was 13 feet; therefore I must have meant 13 feet.

Q. You have no recollection about it?—A. No recollection at all.

Q. You have no recollection as to why you couched your certificate in that peculiar language, instead of saying how much water there was in the canal?—A. Not at all.

Q. You were in the stern of this boat?—A. I presume so.

Q. You have no recollection about that?—A. Not personally; I have been told, since, that I took the tiller ropes; of course I was in the stern.

Q. You do not recollect it yourself?—A. I do not recollect. I only know that I was in the boat where the work of taking the soundings was made. I remember that distinctly.

Q. Mr. Muloch was in the bow of the boat?—A. I presume so.

Q. You do not recollect about that?—A. I cannot recall it; that would naturally be the place where he would be in order to sound first on one side and then on the other.

Q. What day of the month was this?—A. The day that is stated in the certificate.

Q. Do you recollect?—A. No.

Q. What day of the week?—A. I can't recollect.

Q. What time of the day?—A. We started from Hancock at a timely hour in the morning—I cannot fix it, of course—and spent the day.

Q. How long did it take you?—A. Two days. We started from Hancock, about the middle of Portage Lake, went by tug and spent all the available hours between that and the time to return, which I cannot fix. Then the next day we made the same excursion.

Q. Then the only thing you do recollect about this is that you went through there in a boat with Mr. Muloch in the bow with a sounding pole?—A. Yes, sir; and that the soundings were taken and that we ascertained that the depth of water was satisfactory; that I do recollect.

Q. Who else was with you besides Mr. Muloch?—A. Somebody rowed the boat.

Q. Anybody else?—A. Nobody that I know; nobody in the small boat. Mr. Forster went up with me, I think, on the tug from Hancock.

Q. Did Mr. Forster see you take any of these soundings?—A. Probably.

Q. Do you recollect about that?—A. He left with me and Mr. Muloch in the boat. He probably saw us; I don't know that he watched the proceedings; he may have seen us if he had looked; the canal was only 100 feet wide.

Q. Did you examine anything else except the soundings in connection with that canal?—A. I state that I made a thorough examination.

Q. Do you recollect?—A. I recollect that that was unusual; the rest was measuring, my daily work.

Q. What work were you engaged upon at that time besides this?—A. Constructing the Mineral Range Railroad.

Q. Where is that road situated?—A. It runs from Hancock to Calumet.

Q. Where were you working at that time?—A. The entire length of the road, and we were finishing it up very rapidly, too.

Q. What kind of work were you doing?—A. I presume at that time they were laying rails.

Q. Do you recollect anything about it?—A. No particulars, except that I was laying rails, and that I had it under my charge.

Q. Where were you living at the time?—A. At Hancock.

Q. Do you know anything about the governor's certificate as to the completion of the work?—A. Nothing whatever.

Q. As to when it was made?—A. Nothing about the governor of Michigan.

Q. How often and how far apart were those soundings taken?—A. The boat was rowed slowly; that I remember, and just as fast as the pole could be put in one side and then on the other; there was no measured distance, of course.

Q. Did you make any figures about this on paper at the time?—A. Not to my recollection; I may have done so, but I do not think I did.

Q. When you reported to Mr. Holland did you give him anything in writing?—A. The certificate which you have.

Q. Anything but this certificate?—A. I imagine not.

Q. You had no paper in your hand when you went through?—A. I do not suppose I had.

Q. You took no memorandum in writing as to the examination?—A. There was nothing that required memoranda. If there was sufficient depth of water, then I had nothing to make memoranda about; if there had been anything deficient, I would have noted it; I suppose I had pencil and paper with me; an engineer generally carries what is called an engineer's field book with a pencil in it.

Q. You do not know whether you did?—A. It was exceptional if I did not; I cannot swear that I had it.

Q. Is that the way that an engineer expert usually examines work of that kind in order to make a report in writing without figures of his work in detail?—A. Under those circumstances it would be exactly the way any engineer would do, I suppose.

Q. You made no map?—A. No map whatever.

Q. Did you communicate any facts to Mr. Holland outside of this report?—A. I presume so.

Q. You do not remember that?—A. I cannot recall that.

Q. Whatever examination you made there was made with reference to these specifications?—A. Certainly.

Q. Did you have the specifications with you?—A. I know that I examined them; whether I had them with me or not I am not positive. If I did not have them in my possession at the time, I know I had free access to them and understood them at the time.

Q. You do not recollect whether you had them in hand or not while going over the work?—A. No; I do not know that I had them in my hand all the time that I was going over the work.

Q. What is your best recollection about it? Have you any recollection about it at all?—A. None at all. That occurred a great many years ago, and I did not charge my memory with it. When I made my report I regarded the matter as concluded; that settled it in my mind, and I was done with it, and had no further interest in it.

Q. Have you any interest in it now?—A. None whatever.

Q. Have you ever had since?—A. Never.

Q. Have you had any interest in other lands in the upper peninsula?—A. None at all.

ROBERT MULOCH sworn and examined.

By Mr. MCCARTER:

Question. Where do you live?—Answer. In Iowa.

Q. What part?—A. Solon, Johnson County.

Q. What is your age?—A. Fifty-eight years.

Q. What is your employment now?—A. Farmer.

Q. Did you ever have anything to do with this ship-canal?—A. Yes, sir.

Q. Did you hear the testimony of Mr. Wright, just given?—A. I did.

Q. Will you describe what you remember of the examination which he made, of the part you took in it, and how it was conducted.—A. We went through the canal; we commenced at the Portage Lake end. I stood up in the boat, and had, as far as I can recollect, a 16-foot pole, I think it was. I measured the pole off to Mr. Wright from both ends and marked it with red chalk all around; I marked 14 feet of water on the pole. Then we started, and the young man that was in the boat rowed, and I stood up in the boat and sounded. I stood amidships, not in the bow, and the boy sat forward to row, and Mr. Wright had the tiller ropes in his hand and steered about 10 feet from the side of the canal. I would sound first on one side, which he saw, for he was not three feet from me, and then I sounded on the other side; and in that way we went through the canal and out into Lake Superior, and sounded all around, and then down the other side of the canal; and then we came back through the center, zigzag, from one side to the other, back and forth.

Q. Then you traversed the canal three times in that operation?—A. Yes, sir.

Q. First on one side, then on the other, and then zigzag?—A. Yes, sir.

Q. What was the depth of the water at that time in the canal?—A. There is no place that had less than 14 feet of water at that time.

Q. Did you make the sounding correctly?—A. I did.

Q. Do you remember whether Mr. Wright had the specifications with him or not?—A. No, sir; I do not.

Q. Did you sound out in the harbor between the piers?—A. Yes, sir.

Q. How was that conducted?—A. In the same way; we sounded all over the harbor; we did not go out at the end of the piers; the pole wouldn't reach at the end of the piers.

Q. How do you know it would not?—A. I know there was 21 feet at the west end.

Q. You are acquainted with the fact, are you?—A. Yes, sir; well acquainted.

Q. How long had you been connected with the canal prior to this examination in 1873?

The WITNESS. You mean when I was engaged?

Q. When were you first engaged about the canal?—A. I can't tell you the year exactly. I first went there under Mr. Howard, the first superintendent of the canal, as walking boss, and looking after the work generally.

Q. How long did you stay on the canal?—A. I was on it three years at that time.

Q. Was that before or after its completion?—A. Before.

Q. Then what subsequent connection had you with it?—A. I left the canal then for more than a year; I can't exactly recollect how long; and then took charge of the canal from Mr. S. L. Smith.

Q. Who is S. L. Smith?—A. He belongs to the firm of Smith & Harris; I think he was the agent of the receiver, Mr. Knox, at that time.

Q. The bondholders' receiver?—A. Yes, sir.

Q. Can you tell when it was that you commenced work under Mr. Smith?—A. Yes, sir; the 1st day of November, 1872.

Q. Did your employment continue until the time of this examination?—A. Yes, sir.

Q. And afterwards?—A. Until the 1st of November, 1873.

Q. Then did you cease to be employed on the canal?—A. Yes, sir.

Q. Did you ever have any connection with it afterwards?—A. No, sir; none whatever.

Q. Are you able to say whether the canal, through its whole length, was at that time 100 feet wide and 13 feet deep?—A. Yes, sir.

Mr. DAVIS. It was.

Q. You mean to say it was?—A. It was.

Mr. REDINGTON (to Mr. Davis). Suppose you let the witness answer.

Mr. PAYSON. I presume it was inadvertent.

Mr. MCCARTER. My question was so framed that an affirmative answer simply did not wholly answer the question.

Mr. DAVIS. And I simply wanted to call attention to that fact.

Mr. MCCARTER. The criticism is a very proper one, I think.

Q. You know how the harbor was constructed on the Lake Superior end by the piers that ran out there?—A. Yes, sir; I do.

Q. Can you give any description as to the character of the storms that occur there in that region, and what effect they have, if any, on the work as it is there?—A. They are very violent indeed when they do occur. A northeaster carries the sand down and out past the piers. In the fall of 1852, before the piers were completed at all, there was a lot of ice collected in there, and a very heavy northeaster was blowing at the time, and the ice was going out in piles, passing the end of the piers as far as they were built, going with such velocity that they went out clear of the west pier altogether, and went on the shore on the other side.

Q. You said 1852; did you mean that?—A. I meant 1862.

Mr. MCCARTER. No, you did not mean 1862.

The WITNESS. The fall that I took charge.

Mr. CARTER. That was 1872, you said.

The WITNESS. Then I mean 1872.

Q. Can you give any idea whether the method of construction adopted

or this canal would be better or worse than the one with flaring piers lescribed in the first specifications?—A. My idea is that they are better is they are.

Q. Why?—A. There is less chance for the sea to come in with a iortheaster or a northwester. Of course, a north wind would blow square in at the piers, anyhow.

Q. The wider it is the more opportunity for the wind to come in?—A. Yes, sir, and the sea.

Cross-examination by Mr. REDINGTON:

Q. Where do you live now?—A. In Solon, Johnson County, Iowa.

Q. How long have you lived there?—A. About six years.

Q. What is your occupation?—A. Farmer.

Q. Are you a civil engineer by profession?—A. No, sir.

Q. What was the character of the work on the canal while you were here?—A. Just digging and seeing the work carried on all the way through.

Q. You were general superintendent of the work?—A. Yes, sir.

Q. Have you ever seen any other harbor than that at the entrance of a canal?—A. Oh, yes, I have seen Marquette Harbor.

Q. Is there a canal there?—A. No, sir; there is a harbor there.

Q. Have you ever seen any other harbor than this at the mouth of a canal?—A. No, I think not.

Q. Then your opinion about the character of the work done at the mouth of the canal is based simply upon what you know of the character of that work?—A. That is all.

Q. Without any other experience in civil engineering?—A. I do not pretend to be a civil engineer at all.

Q. You say you went through the canal in a row-boat?—A. Yes, sir.

Q. Who rowed that boat?—A. A son of mine, a young man.

Q. What is his name?—A. Vans.

Q. Where does he live?—A. He is at present at Cedar Rapids, Iowa.

Q. You had the pole?—A. I did.

Q. How long was it?—A. I think it was 16 feet, or perhaps longer; I couldn't say for certain.

Q. Not longer than that?—A. I say I couldn't say whether it was longer or not. But I know it was certainly 16 feet.

Q. Did you find any place in the canal where the pole would not reach down?—A. After we got out of the harbor.

Q. But no place in the channel of the canal?—A. Oh, no; there was 14 feet of water there.

Q. How did you mark that pole?—A. I can show you. [Witness produces a card marked off to represent the marking of the sounding-pole.]

Q. That is 14 feet off of each end?—A. Yes, sir.

Q. Two feet in the middle?—A. Yes, sir; that is, supposing it was a 16-foot pole.

Q. You marked the pole yourself?—A. I marked the pole myself.

Q. When?—A. In Mr. Wright's presence. I had the pole, and took my rule and measured off 14 feet and marked it across from the end, and then took and measured from the other end 14 feet, and that, of course, left a space in the center.

Q. Did Mr. Wright see you do that?—A. Yes, sir; he did.

Q. You took that pole in the center?—A. Not necessarily in the center.

Q. And you sounded first on one side of the boat and then on the other?—A. Yes, sir.

Q. And Mr. Wright looked at you, did he?—A. He was right close by me, right at my back, and he had nothing else to do but look at me.

Q. He took no figures?—A. No, sir.

Q. Did you take any?—A. I couldn't tell; it was unnecessary; there was 14 feet marked on the pole.

Q. There was no memorandum taken by anybody?—A. No, sir.

Q. How do you know that there was 21 feet of water at the end of the pier?—A. That I can tell you also. By actual sounding, and by a map that Mr. Forster sent me that winter as a guide to the work. [Witness produces the map referred to.]

Q. Are these the soundings you made?—A. No, sir; they were made in the summer of 1862.

By Mr. McCarter:

Q. 1862?—A. 1872, I mean.

By Mr. Redington:

Q. Who made those?—A. Mr. Forster made those soundings.

Q. In 1872?—A. Yes, sir; in 1872.

Q. Why did he make them in 1872?—A. Just to satisfy himself, I suppose, what water was out there.

Q. Did you see him make those?—A. No, sir; I did not. I know that there was 21 feet of water at the end of the pier; I am perfectly well satisfied of that, because I sounded that with a metallic tape line that I had.

Q. When?—A. Before I gave up the work at all.

Q. Did you ever have any interest in any of these canal lands?—A. None whatever.

Q. And have none now?—A. No, sir.

Q. Were you paid a salary by the canal company?—A. Yes, sir.

Redirect examination by Mr. McCarter:

Q. You got this map from Mr. Forster?—A. Yes, sir.

Q. What was the purpose of his giving it to you; what use did you make of it?—A. It was to show me where to dredge for those piers—at the red lines, right where they were, to put in piers to join on to the inside work. At the same time he sent me a diagram of the way to lay out the Lily Pond, but I have mislaid it. I came across this map by the merest accident. I never thought, of course, that there would be any need for anything of the kind.

Q. You tested these soundings at the end of the piers and found them 21 feet?—A. Yes, sir.

John H. Forster recalled and further examined.

By Mr. McCarter:

Question (handing witness the map produced by the last witness, Robert Muloch). Look at that map and state whether you recognize it.—Answer. That is my work.

Q. Can you tell what that was made for?—A. To guide the superintendent in the construction of the work.

Q. The degrees there represent soundings?—A. Yes, sir.

Q. Were they made by you, or under your direction?—A. They were made by me.

Q. Can you tell whether they were correct or not?—A. Yes, sir; they were correct.

Q. During what year was that used by Mr. Muloch; can you tell?—A. I think it was 1873.

Q. What does that represent?—A. That represents the work at that stage.

Q. The condition of the work at that stage?—A. Yes, sir.

Q. When was that?—A. I think that was at the opening of the season in 1873; I don't recollect exactly.

By Mr. PAYSON:

Q. The paper is not dated, probably?—A. No; it is a mere map I gave him for his guidance.

Cross-examination by Mr. REDINGTON:

Q. Did you make those soundings?—A. I did.

Q. Why did you make them?—A. For my own information; it was my duty to make them, as an engineer, to know where I was.

Q. Did you hear the testimony of the last witness?—A. I heard it; yes, sir.

Q. You did not make them for his guidance in dredging?—A. I made them for my own information, but when the superintendent called on me for plans to guide him I gave him my plans; he was under my orders.

Q. You did not make this map and give it to him for the purpose of telling him where to dredge?—A. I gave it to him for the purpose of telling him where to dredge for those cribs that we were going to put down.

Q. Whereabouts?—A. Coming in to the shore, at the shore end of the piers; I commenced at the outer end, because they were not ready; I commenced out in the lake and came in, so as to expedite the work.

Q. How did you make these soundings?—A. I made them with a pole marked in feet, and tenths of feet; I had men to row and steer the boat, and I sounded.

Q. Have you got your memoranda or notes that you made at the time, from which this plat was made?—A. No, sir.

Q. Where are they?—A. I don't know that now.

Q. Did you have any?—A. Yes, sir; I couldn't recall them if I didn't have them.

Q. You cannot tell where they are now?—A. I don't know; it is ten years since that.

Q. Did you keep these records?—A. I kept these. I had an office on Lake Superior, and I have an office there to-day; probably my books are there; I hunted for them before I left home, but they were not there.

Q. Will you hunt further for them?—A. When I go to Lake Superior perhaps I can find them in my safe.

Mr. REDINGTON. That is all.

The WITNESS. I would like to make one correction in my previous testimony.

Mr. PAYSON. Certainly.

The WITNESS. It is a long time since this was done; I stated that the superstructure of that pier was ten to twelve feet above water, or something of that kind. It was 12 feet from the bottom to the top; I think it was 8 feet above water; I think the outer end was 9 feet.

(The map produced by witness Robert Muloch was marked Exhibit O.)

JAMES PRYOR sworn and examined.

By Mr. McCARTER:

Question. Where do you live?—Answer. At Houghton, Lake Superior.

Q. What is your age?—A. Fifty years of age.

Q. What is your employment?—A. At present, canal superintendent.

Q. What canal?—A. Lake Superior Ship-Canal.

Q. How long have you been in that employment?—A. Ten years.

Q. When did you commence?—A. I commenced as superintendent in 1874.

Q. Had you any connection with the work prior to that?—A. Yes, sir; I was the cashier and bookkeeper for three years previous to that.

Q. With the old company?—A. With the old company and also with the receiver.

Q. Who was the receiver?—A. Isaac H. Knox.

Q. Who was his agent?—A. S. L. Smith.

Q. After the completion of the canal what connection had you with it?—A. I was appointed superintendent during the winter by Mr. Knox.

Q. During what winter?—A. 1873-'74.

Q. And you commenced your labors in that capacity, when?—A. In the spring.

Q. Did you do anything in that spring to ascertain the depth of that canal?—A. I did, early in May; I don't remember exactly the time; on the opening of navigation. The seasons vary so; sometimes they are a month earlier than at other times.

Q. What year?—A. 1874. It was in the latter part of May, 1874, that I sounded the canal; and I wrote to Mr. Knox, in June, saying——

Q. No matter what you wrote to him; just tell us what the fact was. —A. That is what I was going to say.

Q. Proceed then, and tell what it was.—A. That the canal was in as good condition as it was left the preceding year, with the exception of about 7 or 8 or 900 feet at the upper end.

Q. That is the Lake Superior end?—A. Yes, sir; where it had filled up with sand and rock, and washed in some two or three feet. All the rest of the canal I reported about the same depth, as I understood it to be, as the year before.

Q. What was that?—A. I couldn't say; I didn't sound the canal myself previous to my being appointed, so that I do not remember the depth of the canal.

Q. But you were informed what it was?—A. I think I must have understood that, because I said that the canal was in every way as deep as it was the year before, with that exception; hence, I must have known, I presume, the depth, but I am not certain upon that point.

Q. What was done in regard to that part of the canal which was not as deep as it was the year previous?—A. We went to work and dredged and dug it out as quickly as possible, and repaired the holes in the sheet-piling where the sand had washed in. In doing this I used some 220 cords of rock to riprap before and behind the sheet-piling, and also to overlay on top, finding that there had been an insufficient amount of rock placed to preserve the sheet-piling, because the seas during the winter had shown it to be necessary.

Q. You supplemented that?—A. Supplemented the work by using 220 cords of rock.

Q. And dredged it out?—A. Dredged it out.

Q. After that what depth was it throughout?—A. I never left less than 14 feet, and generally over that; 15 and 16 feet.

Q. What can you say for that canal, from end to end, when you finished your dredging? What was its depth?—A. I have not my soundings, nor have I a map, but I am prepared to say conscientiously that I think it was mostly 14 feet, and some places 13 feet; that is, at the height of the water in ordinary cases. You will remember that every spring the water is lower than it is in May and lower than it is in June. In June it comes up from one to two feet, hence early spring is the most difficult time for navigating the canal.

Q. After 1874 did you continue in the employ of the canal company?—A. I did.

Q. Until when?—A. Until now.

Q. You have been continuously in their service?—A. Yes, sir.

Q. In what capacity?—A. Superintendent.

Q. Superintendent of the works?—A. Yes, sir.

Q. Where do you live?—A. In Houghton.

Q. How far is that from the canal?—A. Eight miles.

Q. What opportunity does your employment give you to become acquainted with the condition of that canal during the several years you have been its superintendent? What do you know about it?—A. I direct the work, get my dredge ready, superintend its preparation, hire my men, and go to the canal and tell them where to work every season.

Q. What work?—A. The work of dredging or any other repairs that may be required. I visit the canal myself from two to three times a week; say, on the average, twice a week.

Q. Is there any village of residences immediately along the canal?—A. There are farm houses along the lake shore.

Q. But I mean between the lake shore end and Portage Lake?—A. No, sir.

Q. It is through a wilderness?—A. Through the lake and the woods.

Q. What can you say as to your course of business year by year in regard to maintaining the depth of the canal from the time you were first appointed superintendent until now?—A. My usual plan was, as soon as I could get there or send trustworthy men, at the opening of the season of navigation, to sound the canal and ascertain its depth, because I found it was filling up between seasons of navigation every year more or less. Having ascertained what was required, I then made my preparation to repair the damages, and thus continued every year to do that.

Q. Specify what you mean by repairing damages?—A. To dredge out the sand and rock that might have filtrated in through the sheet-piling, or any small holes that might have been washed out during the winter, and to replace any plank that might have been removed from the piers or breakwaters, and to fill up those spaces, and to resheet-pile behind, where it was necessary. Of course it would be useless to drive sheet-piling and leave it remain without other protection before and behind; I have to load that with rock.

Q. These rocks are thrown on the surface at the bottom where the sheet-piling is next the ground?—A. Yes, sir; and I generally fill it up to the surface of the water so as to make sure.

Q. That is outside or back of the sheet-piling?—A. Back of it.

Q. You say you dredged out; to what depth did you dredge?—A. Never less than 14 feet. My instruction to the men is to dredge 15 feet, and they generally exceed that rather than to go under it, particularly if I get a man on contract, like I had in 1878, 1879, or 1880. I had Mr.

Williams, a contractor, doing all my work, and it was to his interest to get all the work out of the canal he could.

Q. Did he do it by the yard?—A. Yes, sir; so I had no trouble to get him to dig deep. The only trouble was for him to keep up to 14 feet. If they dig 15, or pretty near 16 feet, there are always ridges left, which, by the action of passing steamers, will level off and make a uniform bottom of from 14 to 15 feet.

Q. What was the fact as to maintaining the depth of the canal year by year?—A. I think Mr. Schermerhorn's map will show. I think he came in and examined and made the map in 1879. I am willing to show my work by that map.

Q. You remember his being there?—A. I know he was there.

Q. You have examined that map, have you not?—A. I have.

Q. Referring to this map (Exhibit N), describe to the committee how the channel from the end of the canal out to the end of the piers at the Lake Superior end was dredged out, and what was done to facilitate the entrance to the canal.—A. It is understood that these breakwaters are 250 feet apart. I begin in here, if I had no inside work to do; I commence, of course, where the water is shoal. A bar forms at this point by reason of the direction of the piers.

Q. Across the mouth of the canal proper?—A. Yes, sir; but further out we find the great bar.

Q. Between the ends of the piers?—A. Yes, sir; and beyond, for a distance of 250 feet out into the lake. I generally start about 50 feet beyond.

Q. And then what do you do?—A. I dredge from four to five cuts right clean through as far as it is necessary, if it is to the light-house.

Q. Where is the light-house? Is it marked here?—A. Yes, sir. That would be a distance of about 1,300 feet, I presume.

Q. How much would four to five cuts represent?—A. That would represent a good deep channel of about 150 feet, from that to 175. The whole of this outside sand is quicksand, having been washed in there. Sand is held in suspension in water and is brought in there and deposited around those piers. Some of it is deposited on the sides, and some, of course, is washed around and deposited in front of the piers. That the piers are a nucleus for the formation of sand Mr. Schermerhorn's map shows conclusively. Here are the soundings at a distance of probably 100 feet from the side of the piers. At the distance of 200 feet or more, parallel with the shore, it is 17 feet. Here at a point 100 feet from the piers, and parallel with the head of the piers, there is 19 feet. Two hundred feet distant there is 22 feet of water. Thus showing that the water is shoaling up as it comes toward the piers.

By Mr. PAYSON:

Q. Caused by the deposit of sand adjacent to the piers?—A. Yes, sir.

By Mr. McCARTER:

Q. The same relative figures are shown on the other side also?—A. It is the same on this side, too. You will find that there are 17 feet of water at a distance of 100 feet, 19 feet of water at a distance of 200 feet, and 21 feet. Now, had those bars never been there, the water along here would have been as deep as it is there and there [pointing]. There is no getting around that fact, because I know it from my soundings from year to year. That map is a fair showing of my work as it was completed, and I have no objections to it at all. I see there is from 15 to 16 feet of water reported right straight along through the canal, and

I am sure I am satisfied with that showing. I never expect to have it any better than that, because I would not have time to do it.

Q. You speak of Mr. Schermerhorn's map. Do you know anything about him?

The WITNESS. Whilst he was there?

Q. He was there, was he?—A. Yes, sir.

Q. Was Major Robert there?—A. I think not; I never saw him.

Q. What did you see of Mr. Schermerhorn?—A. I did not see much of him.

Q. What knowledge did you have of his being there? Let us know about that.—A. I think he called upon me—I am very positive he did—but I don't recollect any particular conversation that occurred between us.

Q. Did you have anything to do with making the soundings that he reports on that map?—A. No, sir; his assistant was an Englishman that was there.

Q. Could you see the work going on?—A. I think I was there at the canal once whilst they were sounding.

Q. Do you know how long they were sounding?—A. I think they must have been there ten days or two weeks.

Q. What kind of a conveyance did they come in?—A. I suppose they must have come up in some tug.

Q. Do you know?—A. I do not know.

Q. You do not know whether Major Robert was there?—A. I think he was not there; I never saw him.

Q. Can you give a statement of the number of vessels that have gone through this canal during the several years since its operation?—A. Yes, sir.

Q. Please produce it.—A. (Producing a book.) This is the toll-book in which I note down all tolls received from vessels passing through the canal.

Q. Kept by yourself?—A. Yes, sir.

Mr. PAYSON. We do not want the names of the vessels.

The WITNESS. I have gone to the trouble of classifying the vessels, so that the committee may see how many vessels passed through.

Mr. PAYSON. I suppose it will be sufficient if you give the totals.

The WITNESS. In the fall of 1873, after the canal was completed, several vessels passed through: 41 steamers, 23,256 tons; 4 vessels, 1,142 tons. That is for the season of 1873, just as the canal was completed.

Mr. PAYSON. I suggest that this tabulated statement be introduced, without consuming the time of the committee in reading it.

Mr. REDINGTON. I cannot consent to anything of the kind.

Mr. PAYSON. I was going to say, reserving the right to cross-examine upon it, if you see fit.

Mr. REDINGTON. I object to any tabulated statement being introduced as the contents of the book.

Mr. PAYSON. Then let us proceed, if the other course is preferable.

Q. Now give the figures for the next year.—A. 1874: 97 steamers, 41,028 tons; 222 propellers, 176,804 tons; 37 tugs, 1,499 tons; 35 schooners, 2,732 tons. 1875: 211 propellers, 152,086 tons; 114 steamers, 54,056 tons; 19 steamers, 1,439 tons; 41 tugs, 1,756 tons. 1876: 252 propellers, 157,275 tons; 45 steamers. 29,784 tons; 106 tugs, 4,066 tons; 3 vessels (small vessels), 165 tons. 1877: 278 propellers, 185,324 tons; 28 steamers, 19,292 tons; 130 tugs, 5,116 tons; 11 vessels, 1,389 tons. 1878: 259 steamers—I call them all steamers this time to shorten it up.

By Mr. PAYSON:

Q. Steamers and propellers, you mean?—A. Yes, sir; side-wheelers and propellers. 1878: 259 steamers, 218,146 tons; 106 tugs, 9,458 tons; 6 vessels, 1,085 tons.

Mr. SHAW. What is the object of all this?

Mr. PAYSON. I suppose it is introduced with the object in view of rebutting any statement that the canal has fallen into disuse.

Mr. MCCARTER. We would put it in to save time.

Mr. PAYSON. I think it is competent unless the other side will disclaim going into that question of relying upon that statement.

Mr. REDINGTON. We claim that the entrance to that canal was not such as is required by navigation, or is contemplated by the granting act. That large numbers of vessels have passed through there we do not deny.

Mr. PAYSON. It was expressly stated by somebody on the part of the opponents of the canal company, that the depth of the water was so slight—I think 7 or 8 feet—that it was impossible for the canal to be used; and I remember an argument before the committee, that that might be so, *non constat* but there was plenty of water there when it was completed, and then it was replied that if there was plenty of water, why did it not come through? I think the testimony is competent. It will take but a moment to get it in now.

The WITNESS (continuing). 1879: 271 propellers, 231,936 tons; 40 tugs, 4,002 tons; 6 vessels, 1,151 tons; 3 steamers, 1,096 tons. 1880: 259 propellers, 218,227 tons; 30 steamers, 32,900 tons; 11 vessels, 4,626 tons; 16 tugs, 968 tons. 1881: 327 steamers, including propellers, 274,192 tons; 15 vessels, 5,446 tons. 1882: 391 steamers, 338,479 tons; 29 vessels, 10,469 tons: 44 tugs, 2,930 tons. 1883: 438 steamers. The tonnage last year was reduced by the Government. Hence the amount of tonnage in proportion to the number of vessels is smaller for that year, because all vessels were cut down in their register last year.

Q. You mean a new method of measurement?—A. Yes, sir; hence the tonnage will be smaller, but there was a large number going through, and had they retained the same tonnage as the year before, the tonnage would have been larger also. 438 steamers, 298,062 tons; 44 vessels, 63,575 tons; 10 tugs, 748 tons.

By Mr. MCCARTER:

Q. In giving us the number of steamers, you do not mean so many different steamers; it may be different trips of the same vessels?—A. Yes, sir.

Q. What is your distinction in your classification between propellers and steamers?—A. A propeller has a wheel behind, and a steamer has side wheels.

By Mr. PAYSON:

Q. What distance is saved in the ordinary navigation of Lake Superior by the use of this canal in shipments of freight west of it to points east of it, coming down through the Sault Ste. Marie?—A. A steamer having to call at Houghton—

Q. Without having to call at Houghton, what is the saving?—A. If the vessel came from the Sault the distance would not be a great deal; probably there would be a saving of only 25 or 30 miles.

Q. Suppose it had freight for Houghton?—A. Then it would save from 100 to 110 miles.

By Mr. McCARTER:

Q. In pursuance of this same point, what is the importance of Houghton, and what is the character of the traffic that goes through the canal from that point?—A. Houghton is the center of the great copper mining district.

Mr. PAYSON. Calumet and Hecla mine is in that country?

Mr. McCARTER. Yes, sir.

The WITNESS. All the mines are tributary to Portage Lake.

By Mr. McCARTER:

Q. That is the region known as the Lake Superior copper region?—A. Yes, sir.

Q. What is the character principally of the merchandise that goes through this lake?—A. The steamers bring in everything that people eat, drink, and wear, and also coal, sand, brick, and limestone; and they carry out copper and lumber. It is an important point because there are some very large mines there, and a very large amount of freight is delivered every year. Vessels have to come to Portage Lake to deliver their cargoes, hence the business passing through the canal.

Q. Give a statement showing how much has been expended by the canal company each year you have been there in maintaining the work and keeping up its efficiency.—A. (Referring to a memorandum.) This is a memorandum taken from my books. I find that in 1874 the expense for the season was $9,184.61. For the season of 1875, $4,965.56. This expense was considerably reduced, in 1875, by my having secured the work so successfully in the spring of 1873. I only went to a little more than half the expense, you will notice. In 1876 we had to repair some.

Q. Just give us the figures.—A. $6,444.05.

Mr. PAYSON. You may have the permission of the subcommittee to put that statement in as an exhibit, reserving the right to cross examine.

(The statement was marked Exhibit P.)

Q. Give us the aggregate of the receipts and expenditures for the whole time.—A. Total expenditures for the six years, $70,146.79.

Q. Now, the total receipts during the same period.—A. $75,053.13.

Mr. McCARTER. I would state that Mr. Pryor has made a number of tabulated statements which seems to me to be much more full than I think the committee want; but I would like to have him put in tabulated form the results for each year for the use of the committee.

Mr. PAYSON. You may have that permission. He can do that after he is relieved from his examination, and it can be submitted afterwards.

Q. How much water was there between the piers in the channel of that passageway to the canal at the time Mr. Schermerhorn made his map?

Mr. REDINGTON. If he is testifying of his own knowledge, yes; if he is testifying from Mr. Schermerhorn's map, no.

Mr. PAYSON. The map is in evidence, and will show for itself. It is in proof that the figures between the piers indicate the soundings.

Q. Have you any knowledge of your own, aside from Mr. Schermerhorn's map?—A. Of course; I made it my business to sound after the dredge every time. I wanted to find whether they were keeping down to the depth. I instructed them to dig between the piers 16 to 17 feet, in order to allow, as I say, for filling up ridges. My instructions were adhered to by the manager of the dredge, and I was so confident that we had a good channel there that I invited Mr. Schermerhorn to give me a copy

of his soundings after he had completed his work, but he failed to do it. I told him I was willing to abide by his soundings.

Q. That is all the knowledge you have?—A. Yes, sir; I know that I dredged down 16 feet, and in many places 17 feet. He came there along after my work was completed—some two or three weeks, I think, or pretty near a month, and then there are his soundings, which show 17 feet. I speak, of course, with reference to the center of the channel; I don't say that I have got 17 feet close to the shores; I never undertook to dredge there.

Q. Give the committee some information as to the durability and permanence of these structures after ten years' use and exposure to the storms and other injuries which the situation gave rise to.—A. Nineteen-twentieths of the plank that Mr. Forster had put down on those piers is there now. The only place that has had a failure at all was in this angle 450 feet from the canal, on the west side.

Q. What happened there?—A. The timber was wearing away very rapidly, and a hole had worn there, so that during heavy storms some rock had passed out at the side of it.

Q. Some of the rock that formed the crib?—A. Yes, sir; crib-rock. I then cut away the inner or the back portion of the crib, and we made an incline plane to the top of the pier, in order that when a wave came in it would slide in easily and drop over without injuring the timber. That prevented any further trouble. I stuck down twelve-inch square timber, and lined it with plate iron so that the water should not wear it away. A vast amount of stones would be tumbling over there during storms.

Q. What other injury have the piers undergone?—A. Not much of anything.

Q. Do they retain their position?—A. They look almost as good as ever, with the exception, of course, of the wear of the water; they do not look quite so bright, but they are just as substantial as they were, so far as I know, ten years ago.

Mr. REDINGTON. I hope it is the sense of the subcommittee that we have gone far enough to-day. It would be, I think, a great deal better if I could cross-examine this gentleman after examining those books.

Mr. PAYSON. I think I am safe in speaking for the other members of the subcommittee when I say that we do not regard this matter of expense, or the number of vessels passing through, as very material, except as bearing substantially upon the question as to whether the canal has fallen into disuse or not.

Mr. SHAW. It is of no consequence at all.

Mr. PAYSON. It is simply incidental to the statements made by Mr. Swineford. I do not think any time ought to be consumed over it. Of course if there is any case of inaccuracy tending to show exaggerated statement——

The WITNESS. I will guarantee that there is not one figure wrong in that statement.

Mr. REDINGTON. In another view of the case, I think, Mr. Chairman, the matter becomes important. It shows that large amounts of money were required to be expended there exactly as Major Roberts says in his report, in order to put that canal in the condition it ought to have been in 1873. Speaking for myself, I consider these items of some considerable importance, but still, I am willing to cross-examine the witness now, so far as that is concerned.

Cross-examination by Mr. REDINGTON:

Q. When did you first enter the employment of the canal company?—A. In 1870.

Q. And you have remained in their employment constantly ever since?—A. I was in the employ of the old company first, and then under the receiver, and then of the present company, each the successor of the other.

Q. You were in charge of the work of the canal, then, in 1873?—A. No, sir; Mr. Muloch was in charge in 1873.

Q. I understood you to say you were in the employ of the company from 1870?—A. Yes, sir; but not in charge of the canal.

Q. What were your duties in 1870?—A. I was bookkeeper.

Q. In 1871?—A. The same.

Q. When did you first become superintendent?—A. In 1874.

Q. At the commencement of the season of 1874?—A. Yes, sir.

Q. You made these expenditures and did this work every year from 1873 up to the present time?—A. Yes, sir.

Q. In order to keep the channel the proper depth?—A. Yes, sir.

Q. How much material did you take out each year?—A. I could not tell you.

Q. I mean in feet in depth.—A. One season I took out between the piers 20,000 yards, I think, or 23,000 yards; I think that was the largest amount I took out.

Q. How much in depth was it necessary for you to take out to make the channel a proper depth?—A. I generally dredged 17 feet in order to allow for filling up.

Q. At the commencement of each year you found the canal less than the proper depth?—A. At the upper end.

Q. You then dredged to get it to the proper depth?—A. Yes, sir.

Q. How much did you take out in feet?

Mr. PAYSON. How much additional depth?

Mr. REDINGTON. How much additional depth in feet?

A. It depended upon how much water there was at the time I sounded; if there was only 11 feet, of course you can tell easily from that.

Q. In 1874, how many feet did you lower the channel?—A. I think it was about 2 to 3 feet had filled up.

Q. How much in 1875?—A. Very little. My expenses were very small in 1875.

Q. Can you give me the figures?—A. No, sir.

Q. Did you lower the channel a foot in 1875?—A. I tell you I did not dredge three-fourths of the channel at all.

Q. I am talking about that portion of the canal you did work on. How much did you lower the channel in 1875?—A. I cannot say.

Q. Was it a foot?—A. I suppose more than that.

Q. Was it 2 feet?—A. I think so.

Q. And how much did you lower it in 1876?—A. I could not say.

Q. Two feet?—A. I don't know how many feet I lowered it, but I lowered it deep enough to allow vessels to go out drawing 13 feet.

Q. Was it as much as a foot?—A. I couldn't tell you; I might have dredged 2 feet or not more than 1.

Q. In 1877 how much did you dredge?—A. I couldn't answer that question.

Q. How much in 1878?

Mr. SHAW. What figure does this cut? Suppose it was filled up level. I cannot see the importance of inquiring. Do the other members of the committee see the importance of it?

Mr. PAYSON. The counsel may be able to tell.

Mr. REDINGTON. My proposition is that if this canal had been properly constructed at the mouth in 1873 they would not have had to do this work at all; and if I show here by this witness that they have been required to do this work every year since, I show that the work was not properly completed in 1873.

The WITNESS. That is just where you are mistaken.

Mr. REDINGTON. We will see about that.

Q. In 1878, have you any recollection about that?—A. In 1878 we dredged considerable.

Q. How many feet?—A. I do not know how many feet; I think we dredged over 25,000 yards from the canal to the upper line of the canal.

Q. Was it 2 feet?—A. I presume it was 2 feet.

Q. And that continued eight years?—A. No, sir; some years I would not dredge more than a foot.

Q. Which years?—A. I could not tell you.

Q. Here are your items of expenditure on this statement of yours, and they run about the same amount each year.—A. No, sir; they do not.

Q. You say that was for dredging, was it?—A. Dredging and repairs of piers, and purchase of rock and that class of material.

Q. Tell me some years when you dredged less that a foot and a half.—A. I never dredged less than a foot.

Q. What was the highest amount you ever dredged in feet?—A. One season, 1878, when there was a great amount of sand collected around the end of the piers, I dredged, I suppose, to begin with, at least 6 or 7 feet in depth.

Q. You did this work first in 1874, did you?—A. Yes, sir.

Q. And then in 1875?

By Mr. MCCARTER:

Q. You do not mean this last work?—A. No; this last work was in 1878.

By Mr. REDINGTON:

Q. In 1879, did you do any work, dredging?—A. Yes, sir.

Q. What time of the year?—A. It was in the early part of the season.

Q. Did you do any other work in that year on the canal?—A. Yes, sir.

Q. What was it?—A. It consisted of repairs, keeping plank in places, and sheet piling or anything that was necessary to be done.

Q. Did you do anything with sheet-piling that year?—A. Almost every year we had to drive some; I kept that in the best condition I could.

Q. Each year you fixed the sheet-piling, did you?—A. Yes, sir; more or less.

Q. So that it was in good condition all the year?—A. Yes, sir; as good as I could make it.

Q. Major Schermerhorn, in his report, says:

In 1879 the sides of the canal were protected by a cheap and insufficient sheet-pile revetment, which is now badly out of repair.

Is that so?—A. I think it is not.

Q. You think he made a mistake in his report?—A. That is what I think. If you will examine his report you will see that he recommends

the same thing outside in Lake Superior; he proposes to do an inferior work out in the lake, where the water will wash it away in less than three months. I defy any of that work as proposed to be constructed by Mr. Schermerhorn to stand.

Q. I am not talking about that; I am talking about this sheet-pile revetment.—A. I don't care what Mr. Schermerhorn says.

Q. Did you go over any portion of the canal with Mr. Schermerhorn? —A. I don't remember that I did; I think not.

Q. Did you give him any aid in making his examination?—A. I might have; I don't know that I did.

Q. Did you go to this sheet-pile revetment at any time while he was examining it?—A. No, sir.

Q. You think that his statement in this report that it was in bad condition is not right?—A. Perhaps the way the Government do very fine beautiful work it might in his eyes appear to be inferior work, but it was substantial enough to retain the sand and keep in its place, and that is all I care for.

Q. You think Government engineers have a different standard from you by which they measure this work?—A. They have considerable red tape about them, of course.

Q. Is the construction and keeping in repair of sheet-pile revetment a matter of red tape, according to your standard?—A. I don't know. Maybe they do things up very nicely on maps and make it very fine on paper, but when they come to the ground it is not so exactly.

Q. During all these years was the condition of this sheet-piling such as to admit into the channel of the canal sand, *débris*, and stones?—A. Yes, sir; until it was repaired.

Q. Until it was repaired each year?—A. Yes, sir.

Q. Then every fall it had fallen into decay and was liable to breakage; is that so?—A. The sheet-piling during the winter and all timber work is influenced by the ice and current in the canal. There is always a sifting process going on, in and out, forward and back, and it is operating on the timber work, and if a sheet-pile is any ways weak at all it is like a tooth in a man's head that is bound to come out if it is very loose. Now, of course, on my examination of the canal in the spring I look through and see what amount of sheet-piling will be required to replace such as are washed out, and opposite those little holes there will be more or less dredging.

Q. And you did that in 1879?—A. Most every year.

Q. You did it in 1879, did you?—A. I presume I did.

Q. And yet Mr. Schermerhorn comes along in the fall and makes this report about it?—A. I think that his soundings show——

Q. What was the character of these vessels that passed through the canal during these various years?—A. Some of them were passenger steamers and some freight vessels.

Q. About what depth of water did they draw?—A. From 11 to 13 feet.

Q. What class of vessels passing through that canal drew 13 feet of water?—A. Some of the Transit Line, iron steamers.

Q. How long has that line been running?—A. I think it began in 1877; that is a Buffalo line.

Q. In 1874 and 1875 what vessels drawing 13 feet of water passed through that canal?—A. The Peerless, the City of Duluth, and such vessels as that.

Q. What kind of vessels are they?—A. Vessels of 1,200 tons and over.

Q. What character of vessels?—A. Passenger steamers.

Q. Side-wheel?—A. Propellers.

Q. And they drew 13 feet of water?—A. Sometimes, not generally, in passing through the canal; sometimes they would only draw 10, 11, 11½, and 12, just as they were loaded. They would go to Portage Lake and discharge their cargo and come out of the canal.

Q. Did they ordinarily draw 13 feet of water?—A. No, sir. That is exceptional.

Q. About what is the ordinary draught of these lake propellers?—A. About 11 feet.

Q. Those are the vessels of the largest draught that passed through that canal in 1873 and 1874, are they not?—A. They are the vessels——

Q. They are the deepest draught vessels?—A. They were. Sometimes a vessel might draw 12 feet and sometimes only 10½.

Q. Do you know of a single instance in 1873 or 1874 where a vessel drawing 13 feet of water passed through that canal?—A. I do not remember any.

Q. You cannot name such an instance, can you?—A. I can for another year.

Q. I ask you for that year; you know of no such instance?—A. I don't remember, sir, of any such instance; there might have been.

Q. Can you tell by looking at your book?—A. No, sir; I am looking at the depth of water the boat draws.

Mr. REDINGTON. Let me see that book. (Book handed to Mr. Redington.)

Q. This commences May 13, 1874?—A. Yes, sir.

Q. Where is your book for 1873?—A. I brought a memorandum; I did not suppose it was necessary to bring my books for 1873. That is the only toll-book I have.

Q. These are the entries of vessels passing through the canal?—A. Yes, sir.

Q. On the dates specified?—A. No, sir; they did not pass through on those dates. That is the date they paid; they had previously passed through. I do not keep the date on which they pass through.

Q. Is there anything in any of these entries which shows the depth of water the vessels drew?—A. No, sir.

Q. Are you a civil engineer?—A. No, sir; I do not profess to be.

Redirect examination by Mr. MCCARTER:

Q. You say that the ordinary draught of vessels that went through in 1873 and 1874 was about 11 feet?—A. They could not draw any less than from 10½ to 11 feet, and when loaded they would draw a little more—up to 12 and 13, for aught I know.

Q. You do not mean to say that no vessels went through in 1873 and 1874 drawing 13 feet?—A. I do not mean to say that there was not. I do recollect positively one fall, 1882 or 1883, when the captain of the Northerner came to me. He was drawing 13 feet 2 inches. He came through the canal and wished to know if he could load deeper and pass out by way of Portage River.

By Mr. PAYSON:

Q. Have you a regulation of that canal not allowing more than 13 feet to be drawn?—A. No, sir.

Mr. PAYSON. Some canals have come under my personal observation that have regulations of that character, restricting vessels to a certain draught of water.

By Mr. MCCARTER:

Q. Is Portage Lake actually made use of as a harbor of refuge?—A. It is, very often.

Q. Vessels go there through this canal and lie?—A. Yes, sir; they run in through the canal and turn around in Portage Lake, and come back and lie at some safe point. I am positive that in 1881, on the 29th of November, the captain of the steamer Northerner, which is a steamer of 1,214 tons register, called upon me to know if he could pass out and increase his depth of water through Portage River. He said he was drawing 13 feet 2 inches, and had come in through the canal all right. He wished to load 6 inches more, to carry out some copper, which he did; and the following spring when he came up I inquired how he got out, and he said all right. That is the only time I ever marked positively the draught of such a vessel going out.

Mr. McCARTER. I believe that exhausts our evidence on the construction of the canal.

Mr. REDINGTON. I would like to have Mr. Pryor retained by the committee, together with his books.

Mr. PAYSON. We regard them as immaterial. Speaking for myself, I do not agree that that may be done at all. We have other work to do, and I do not regard it as of sufficient materiality.

Mr. McCARTER. The books we do not offer in evidence at all.

Mr. REDINGTON. That is exactly why I want to see the books. If the gentleman had had the fairness to offer them in evidence, I should not, perhaps, have cared to look at them.

Mr. PAYSON. Why do you want to see them?

Mr. REDINGTON. I think if we are allowed to examine those books it will tend to save time.

Mr. PAYSON. Why?

Mr. REDINGTON. We want to know what those books contain in connection with that canal, both as to its construction and use in 1873 and 1874.

Mr. PAYSON. With what end in view? Let us understand explicitly why you want to investigate them.

Mr. REDINGTON. If we find that that canal was not in practical operation in 1873 and 1874, so as to admit of the passage of deep draught vessels, it tends, of course, to show that the canal was not completed to the proper depth, because there are vessels of that kind traversing the lakes, and were at that time. We want to say this to the committee, that up to the year 1872 there appear to be records, but when we come to 1873 there is not a scrap of paper, not a memorandum, not a map of any kind which shows the depth of water in that canal.

Mr. PAYSON. To save that time the committee will consider that that is your proof upon your side of this question.

Mr. McCARTER. I would like to ask one more question of Mr. Pryor.

Q. You speak of one vessel going through, the Northerner, on the 20th of November. When does navigation ordinarily close and open?—A. It closes about the latter end of November, from the 20th to the 25th, usually; some seasons it is a little later. It opens in the spring from the 1st of May. We have had vessels as early as the last week in April.

Q. The point I am getting at is the extent and magnitude of the vessels which come there early and late in the season; whether the deep-draught vessels are so frequent in the later part of the season as they are during the settled part of the season?—A. It is exactly the same; they make their regular trips; they make 14 trips during the year.

Mr. McCARTER. Mr. Chairman, I have now copies of the reports spoken of, of Mr. Forster, that he sent to the governor of Michigan in

1870 and 1871. I offer them now, and propose to submit them to the other side so that they can examine them.

(The papers were marked Exhibit Q and R respectively.)

Mr. REDINGTON. Do I understand that these books are retained?

Mr. PAYSON. I have no objection. Of course, if they are the private books of the company, they will not want them carried around town, but they may be subject to your examination.

Mr. MCCARTER. I believe that is all the testimony we have on our side now, unless there is something further occurs to the committee.

Mr. PAYSON. Nothing occurs to me.

Mr. SHAW. Nothing at all occurs to me.

Mr. PAYSON. There is the matter of the witness, Mr. Campbell; what shall be done with him, gentlemen? He has reported to the committee, having apparently been properly subpœnaed.

Mr. MCCARTER. Will he be kept here?

Mr. REDINGTON. Almost every member of the committee knows, and these gentlemen are certainly not ignorant of the fact, that Mr. Campbell occupies a very peculiar and anomalous position, not only in respect to this grant, but others. I presume he has been called here by the committee for the purpose of examination.

Mr. PAYSON. He has not been called by the committee.

Mr. REDINGTON. I do not know that I want him as a witness. I certainly do not want him as a witness to-day.

Mr. PAYSON. Mr. Campbell came to me during the lunch hour with a telegram from the Sergeant-at-Arms, and stated that he had come from Jacksonville. The Sergeant-at-Arms brought him to us. Mr. Campbell stated that he did not know upon which side he was called, and asked me to ascertain. I have no further knowledge than that. He has not been called by the committee; that is certain.

Mr. CAMPBELL. I certainly would like to know why I was summoned to travel a thousand miles away from a nice warm climate. I do not like to be jerked out in that way without knowing what it is for.

Mr. PAYSON. Are you ready to proceed, Mr. Redington, with the testimony on your side? That seems to be all that remains for us to-day.

Mr. REDINGTON. I do not suppose the subcommittee would for a moment think of compelling me to start at this time of day or at this time of the investigation, and attempt to open my case, for I have not my witnesses here, and even if they were here, I should desire to see them and know what they would testify to before starting in with my side of the case. I think it but a reasonable request that we may have until Monday before we commence our case. Mr. Swineford is the moving gentleman in this matter, as the committee well know. I have come into the case as counsel, but have not spoken to or had any acquaintance with most of the witnesses. In fact, the only one I have in my mind as absolutely necessary in connection with the case is a gentleman I never met before and never exchanged a word with.

Mr. PAYSON. We think there ought to be some kind of assurance as to what you expect to do if we grant your request.

Mr. REDINGTON. I can go on with the same old indictment against the company and say what we expect to prove.

Mr. PAYSON. But it only comes to us at second or third hand.

Mr. REDINGTON. I get my information just the same as other lawyers and in no other way. I can make the same statement to the committee that any lawyer makes in court, and I cannot do anything more. I never saw the Lake Superior Ship-Canal, and of my own personal knowledge I do not know that there is such a ship-canal in existence.

The information that comes to me from an honorable and responsible source is to a certain effect, and upon that information, I undertook to say, upon my professional reputation, that we expect to prove such and such facts. But I cannot do that with my witness in Michigan or on the way. I expect to do it on Monday.

Mr. PAYSON. The first proposition was by myself that this hearing should go on last Tuesday. That gave about nine or ten days to get witnesses here. The gentlemen representing the canal company said they could get ready without the compulsory process of the committee. Mr. Swineford said that he would be away two or three days. Then Mr. Van Eaton said "Let us be ready on Friday; can you be ready?" He said he would. Then Mr. Cobb, in the frank, not to say arbitrary manner that he sometimes has, said "This thing will go on on Friday," and Mr. Swineford said "We will be here."

Mr. VAN EATON. I remarked in the presence of Mr. Swineford, as I supposed, "I want it distinctly understood," or "Let it be distinctly understood that all parties are to be ready, and this case is to go on on Friday." Mr. Swineford then said "That suits me exactly."

Mr. PAYSON. I named Friday because some of the committee were disposed to push forward, but, as he was asking for time, I made that suggestion, and he said that was perfectly satisfactory, and he did not want an hour's further time.

Mr. REDINGTON. Suppose that to be so. This man has been required to go to the northern part of Michigan to hunt up witnesses. He has been indorsed to you as responsible for what he says. He has telegraphed me, and perhaps some members of this committee, that he has started with witnesses, and they will be here on Sunday. In the face of such a statement as that, I propose to go on on Monday in the way originally proposed. But if the committee desires to force me into going into my case now, I am utterly helpless. When I say that I propose to go on with the investigation on Monday, and propose to prove exactly what we said we would, I am doing just exactly as any lawyer would do in court, and I do not mean anything more nor anything less.

Mr. MCGOWAN. I believe the telegrams referred to are here. I wish to say that I went to the Sergeant-at-Arms, and I obtained from him information as to what subpœnas had been sent out on behalf of Mr. Swineford, He has given me the names of Mathews, A. B. Swineford, and George S. Frost. Frost is here, Mathews is in Marquette, and we sent a man from Houghton——

Mr. REDINGTON. Mr. Mathews is not in Marquette, and has not been for months. He is on his way here. I know that of my own personal knowledge.

Mr. MCCARTER. Perhaps if the counsel will state what he expects to prove, we may admit it.

Mr. REDINGTON. I assure you you will not admit it.

Mr. MCCARTER. I do not doubt that.

Mr. PAYSON (after consultation with the other members of the subcommittee). We have concluded that, under the circumstances, we will adjourn the hearing to-day to meet on Monday morning, say, at 10 o'clock, with the understanding that you will be ready at that time, and with the further understanding that if you desire any additional testimony from the witnesses who may be discharged, by way of rebuttal upon the same questions, we will consider favorably a proposition to have their statements reduced to writing at their homes in the form of affidavits. Of course it would be a hardship to these gentlemen who are here in obedience to the subpœna of the committee to remain until next

week, and there will be no additional hardship imposed upon them in case they should want to go home, or in case you should desire not to retain them.

Mr. McCARTER. We have a witness here whose examination now would be entirely premature, and the nature of whose evidence is such that it may not be necessary to call him.

Mr. PAYSON. Upon a point that you anticipate will arise?

Mr. McCARTER. May possibly arise.

Mr. PAYSON. We will hear him.

Mr. McCARTER. We would not think of examining him now, as it would be entirely premature, and yet he may be in such a situation, because of sickness in his family, that when his testimony is wanted, if it should be wanted, he will not be here, and therefore we may want to put in a statement from him of the same character as suggested by the chairman. The only criticism to be made on that is that the witness would not be subject to cross-examination.

Mr. PAYSON. That might be avoided by having him appear before a notary to answer interrogatories and cross-interrogatories in the form of a deposition. We feel inclined to do everything to accommodate counsel in this matter, but we do not wish to keep witnesses in attendance here who are obliged to return to their homes on account of business or sickness in their families, and if their examination here should be precluded by reason of necessary absence we think it nothing but right that their testimony should be taken in the next best form, if considered necessary or desirable.

Mr. VAN EATON. Let the questions be submitted to Mr. Redington, and let Mr. Redington frame cross-interrogatories.

Mr. REDINGTON. I do not want my silence to be construed into consent. If the committee want to get at the bottom facts they must be ascertained by investigation. Nobody is going to get away from the truth if you compel them to tell it.

Mr. PAYSON. But it must be remembered that this committee has other business to attend to besides this matter of investigation. This committee has the reputation of being one of the hardest-worked committees of the House. We sit here day after day, particularly with regard to forfeitures of land grants, and night after night at the rooms of members, sitting until 11 and 12 o'clock, and one night until 1 o'clock, in order to transact the necessary business before us. Mr. Swineford was about here several days after this arrangement was made, when he should have been getting witnesses, for he had equal facilities with the other side. It is now asking a good deal of us to ask a postponement until Monday. Here is a day that is gone. It does not seem exactly right under these circumstances for us to be met with the statement that Mr. Swineford has gone home, and when it suits his convenience he will come.

Mr. VAN EATON. We would not have imagined that from the position of the case.

Mr. REDINGTON. Speaking for myself, I do not propose to go one step in this investigation unless I go to the bottom of it.

Mr. PAYSON. It seems to be understood that the evidence must be presented; we cannot sit and wait for examinations; I am not saying this as to you personally, Mr. Redington.

Mr. REDINGTON. I do not think anything I have said will justify that expression; we have no intention of any unnecessary delay; we are opposed by a corporation with unlimited money, with unlimited power, able to get men all over the country.

Mr. PAYSON. You misunderstand me; a subpœna from this committee, with the power of the United States behind it, would have brought the whole upper peninsular of Michigan.

Mr. REDINGTON. It has not brought them here when the subpœnas were issued.

Mr. PAYSON. The statement is made here that there were only three subpœnas issued.

Mr. REDINGTON. I undertake to say that is not the fact.

Mr. MCGOWAN. I got my statement from Mr. Leedom.

Mr. REDINGTON. I state that it is not the fact.

Mr. MCGOWAN. You are a pretty brash fellow.

Mr. REDINGTON. I am ready to maintain what I say, and I say that that is not the fact.

Mr. MCGOWAN. Do you mean to say that what I say is not true, or that Mr. Leedom's statement to me is not true?

Mr. REDINGTON. I mean that that statement is not true that exactly that number of witnesses was subpœnaed and none other.

Mr. MCGOWAN. He told me he brought all the record here.

Mr. PAYSON. We will resume the hearing on Monday morning.

Mr. REDINGTON. So far as I am concerned in the investigation, I simply want it understood that I do not agree that what we bring out of those witnesses can be rebutted by affidavit.

Mr. PAYSON. I did not make that as a ruling. If you should agree to it there would be no objection to it.

Mr. REDINGTON. I say now that I will not agree to it, and when the time comes I do not want anybody to say that I have agreed to it.

The subcommittee adjourned to meet at 10 a. m. Monday, 31st March, 1884.

WASHINGTON, D. C., *March* 31, 1884.

Cross-examination of Mr. JOHN H. FORSTER:

Cross-examination continued by Mr. Redington, as follows:

Mr. REDINGTON. With reference to the construction of the piers from the mouth of the canal extending into the lake, be kind enough to select such one of these exhibits as will be most convenient for you in order to answer questions on that point.

The WITNESS. Here is an exhibit [Exhibit L] showing a plan of the breakwater from the Lake Superior side.

Question. Commencing at the point on this exhibit which I mark with a cross in pencil, and extending to the end of the pier, please to tell me how that pier was constructed.—Answer. That is not a part of the present work at all. We took it out here [indicating on the exhibit] and brought it on. That inner portion was condemned.

Q. Please select one of those exhibits which shows the pier as you finally constructed it. I want you to show the pier as completed.—A. I have no plan of the pier completed, except an outline plan.

Q. Then you have no plat showing the completed pier?—A. I stated before that I made my reports to Governor Baldwin for four years when I resided on Lake Superior, showing the plans of the work as they progressed each year, for the information of the governor of the State. He resided then at Lansing and I resided on Lake Superior. It was required of me to do so for his information. When Governor Bagley was governor, I was residing on the Lower Peninsula near Lansing. It was during the session of the legislature, and I made a per-

sonal and verbal report to the governor which he accepted. I talked with him a good deal about the work. My term as engineer terminated with the completion of the work. In order to go on and prepare a report and plans of the work, it would require considerable time and labor. There was no fund provided for my payment, and I did not propose to work for nothing. That is the statement which I made the other day.

Q. Then, the reason why you cannot show me that pier as completed upon any plan, is because you have not any such plan?—A. There was no completed plan of the work; this exhibit (O) is the outline plan; it shows the way in which the work was completed.

Q. Look at Exhibit O and tell me how the piers of the canal were completed.—A. They were built of crib work, hewn crib work, sunk at the bottom, and filed with stone, and with plank, and with timbers on top of the plank; the timbers were 6 inches thick.

Q. How wide are the piers?—A. The piers are from 20 to 30 feet wide.

Q. Made of solid crib work?—A. Made of solid crib work.

Q. Filled with stone?—A. Filled with stone.

Q. And with plank on the inside of the canal?—A. No, sir; with plank on deck. There is 12-inch hewn timber on each side.

Q. There is solid crib work all the way to the end of the pier filled with stone?—A. Yes, sir.

Q. And how wide is this pier?—A. From 20 to 30 feet wide. At the heading it is 30 feet wide.

Q. Is there any planking of any kind on the inside or the outside of the crib work?—A. No, sir.

Q. Where does the planking of the canal first commence?—A. At about 300 feet from the end of the pier. It was intended to be continued to the initial point where the piers come to the shore. I commenced at the initial point at the shore, but I found that the plans were defective in that respect. I mean the original plans that were drawn by my predecessor. It would not do to bring the piling right to the mouth of the canal where it would get pretty heavy blows from the waves; therefore I recommended the company to carry these cribs 200 feet into the canal.

Q. Then you carried the cribs into the canal 200 feet on the east of the point that I have marked?—A. On the south of it.

Q. Here where I have marked the exhibit now?—A. Yes. They were narrow cribs. They were sunk in the same manner as these, and were filled with stone.

Q. Then there was crib work all the way to the point that I have indicated by my last mark, No. 2, on both sides of the canal to the end of the pier?—A. Yes.

Q. How were you employed in and about this work—under what authority?—A. Under the authority of the law of the State of Michigan, an act of the legislature. This act placed the work in the hands of the governor and an engineer whom the governor should appoint.

Q. That was the act of March 16, 1865?—A. Yes, sir; I think so.

Q. That act required, did it not, the appointment by the governor of the State of an engineer who should superintend the work?—A. Yes.

Q. And you were appointed under that section?—A. Not at first. Mr. J. M. Green was first appointed. I was appointed by Governor Baldwin.

Q. Under the provisions of the section of the statute?—A. I presume so.

Q. How were you paid?—A. I was paid by the canal company. I

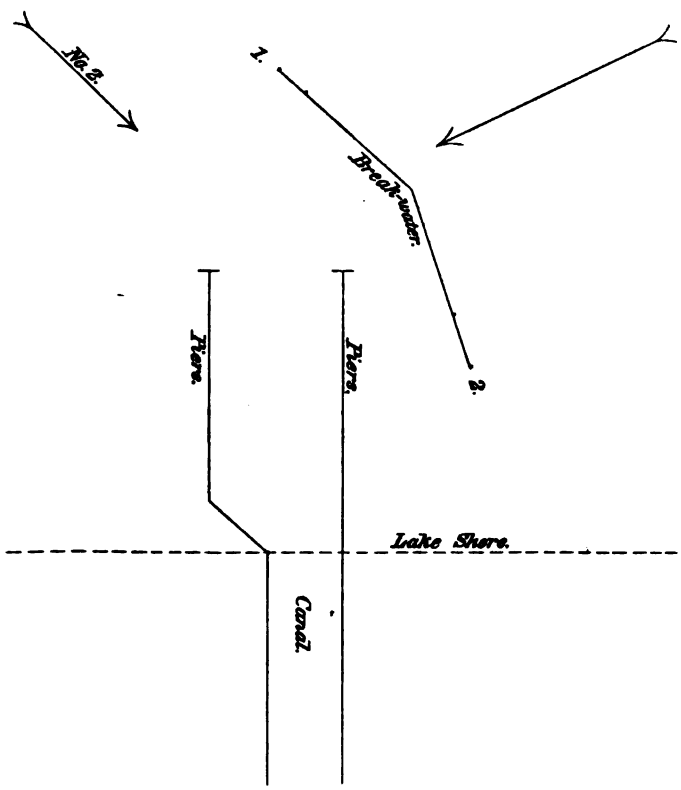
had a good deal of trouble in the early years, and worked there for two years without any pay at all.

Q. I have drawn a little rough diagram in pencil which I will offer as an exhibit to your testimony in order to make it intelligible. First tell me generally the direction of the wind storms on that lake. From what direction do they come?—A. From all quarters.

Q. Which is the principal direction that they come from—which are the worst storms?—A. From the north-northwest and from the north-northeast.

Q. They strike the canal generally from those points of the compass?—A. Yes

Q. Now look at my diagram. Suppose that arrow [indicating] to represent the direction of the storms, and this line [indicating] to be the lake shore, and the canal and piers to be as marked. In your opinion, as an expert engineer, what would be the effect of building a breakwater as I have marked it here [indicating], extending from Point 1 to Point 2? What would be the effect of building such a breakwater in case of storms?



A. It would cover that space in northeast storms.

Q. It would make a lee between the breakwater and the canal?—A. Yes; provided those piers [indicating] ran out there. Of course, if there was a heavy northeast storm coming down this breakwater would break the sea.

Q. It would make a harbor of refuge, would it not?—A. A partial

harbor of refuge. But if the wind came from the northwest it would be worse. Suppose the direction of the wind was changed to the northwest, where would the harbor of refuge be here?

Q. I am asking you the simple question whether, if the wind came from the northeast, the breakwater here would not create a harbor of refuge?—A. It would create a lee there. I cannot say whether it would make a harbor of refuge.

Q. It would create still water between this point [indicating] and the head of the canal?—A. Yes; lee and partially still water.

(The exhibit was put in evidence and marked No. 1.)

Q. What would be the expense of constructing such a breakwater as that? I want you to put that breakwater at a sufficient distance from the shore to give room for a harbor of refuge; I want you to build it in a substantial and workmanlike manner, so that it would stand any storm; and then tell as nearly as you can what would be the cost of such a breakwater?—A. It would be pretty hard to arrive at the cost of it. I would want to know the length of the breakwater, and the depth of the water where it is built, which is a very serious item in the estimate. Out there the depth would be probably 40 or 50 feet. There you would have to build up to the surface, and you would require to have a base twice as great as if there was only 20 feet of water. The deeper the water is the broader the base of the breakwater would have to be, and therefore the more costly the construction of it. In 40 feet of water it would require immense fillings of stone. I cannot give you the figures of the cost. It would cost from one to $200,000 to build it there in deep water.

Q. Could such a work as that be built at a cost of $200,000?—A. I cannot say.

Q. You are well acquainted with the construction of this canal and all its surroundings and the depth of water, and as an expert you know how such a breakwater as that which I propose should be constructed, and to what distance and at what length from this point [indicating] it should be built. You are acquainted with the general features of such a contemplated work. Now I want you to think about it carefully, and to tell me whether such a breakwater could be built for $200,000.—A. I cannot tell you without going into figures what such a work would cost.

Q. Do you think it could be built for half a million dollars?—A. Oh, yes.

Q. Are you certain of that?—A. Yes.

Q. At what distance from the shore, and for what length, could you build such a breakwater for half a million of dollars?—A. I cannot answer that question.

Q. Do you know how long the breakwater at the mouth of the Chicago River is?—A. I do not know its length at the present date; it has been added to repeatedly.

Q. Do you know the cost of that breakwater?—A. I know that it has cost a great deal of money.

Q. Do you know what has been the cost of the breakwater at Marquette?—A. No, sir. I know that appropriations have been made for it year after year for a great many years. I do not know what it has cost, nor what the breakwater at Ontonagon has cost.

Q. Can you now recollect any breakwater along the coast of this lake, and the cost of it, by which you can make any such comparison as I wish you to make?—A. No.

Q. Then your opinion is that the breakwater which I speak of could be built for $500,000, and that it would cost at least $200,000; do I un-

derstand that to be your opinion?—A. I say that I do not know what it would cost.

Q. You said once that it would cost $200,000.—A. I said that it would cost at least $200,000, and that its cost would depend upon its length and depth and position. I cannot give you any idea of the cost, because the cost depends upon so many conditions.

Q. Then it is stating your position in the matter correctly to say that, in your judgment, such a pier could be built for between $200,000 and $500,000?—A. I think that one could be built for $500,000; that is my opinion.

Q. Then this canal company by the expenditure of $500,000 could, in your judgment, have built such a breakwater?—A. It could have built a breakwater which would not have covered the canal at all.

Q. What was the amount of the work and labor expended on this canal according to your estimate the other day?—A. I stated the other day that, although I knew nothing about the finances of the company, I should think from my observation as engineer that the company expended between $2,000,000 and $3,000,000. There was a great deal of waste there.

Q. And half a million dollars more would have put that breakwater there?—A. I suppose so.

Q. You stated in your testimony the other day that after the canal was made, you expected there was going to be a good deal of growling about the depth of water; what did you mean by that?—A. I did not say that. I said that some of the captains growled. I said that I stated to the parties who were left in charge of the canal that they would have to dredge the next year and perhaps for several years.

Mr. REDINGTON. I will read some questions and answers from your testimony taken the other day:

Q. The work done there at that point did not make a harbor of refuge?—A. No, sir; only as allowing them to come in and get into Portage Lake. That is a very fine harbor.

Q. Portage Lake is a natural harbor; the canal has always been satisfactory to navigators, has it?—A. I suppose generally so. I heard a great deal of growling about the depth of the water, but that I expected.

What did you mean by that?—A. I expected on the Lake Superior side that, owing to the tremendous inrush of the sea, there would be more or less drawing down of sand and filling up, and I expected that after the whole thing was settled it would require dredging. You asked me in your cross-examination if I had been on that canal after I left it as engineer. I did not recollect it at the time, but I have thought it over since and I desire to state that I was on the canal and made an official examination of it during the season of 1875.

Q. I am not asking about that. I would like you to answer my question what you meant by saying that you expected that there was going to be growling there on account of the depth of water?

Mr. Payson stated to the witness that any explanation which he desired to make he would have an opportunity of making afterwards, but that at this point he should answer the questions asked.

Mr. REDINGTON. Tell me now why it was that you thought there was going to be growling.

The WITNESS. I expected that the captains of steamboats would be growling because of shoals.

Q. Then you expected that there were going to be shoals?—A. Yes.

Q. Notwithstanding that the pier was thrown out to the depth of twenty-one feet?—A. I never expected the sand to work around that twenty-one feet of water.

Q. And yet it did?—A. It did.

Q. What did you think was going to happen that would create growling?—A . I expected that the sand would filter in on account of the movement of the water—on account of the inrush of the waves of the lake and the currents disturbing the bottom and making eddies and deposits.

Q. Where did you expect the sand to drive in?—A. Pretty near the mouth of the canal proper.

Q. Through the crib work?—A. Yes; through the crib work and near the mouth of the canal.

Q. Did you expect the sand to drift in through the crib work?—A. Not through the crib work, but through the pile work.

Q. You expected the drifting to take place there?—A. Yes.

Q. Then you expected that the sand was going to drift through this pile work in such quantities as to obstruct the channel?—A. Yes.

Q. But you did not expect that there was going to be any deposit outside of the piers?—A. No, sir.

Q. And yet that was afterwards ascertained to be the fact?—A. I believe so; I do not know it of my own knowledge.

Q. You have already described the character of this sheet-piling. Could not that sheet-piling have been so constructed as to prevent that sifting through of the sand?—A. I do not believe it.

Q. Suppose you had taken a double sheet of plank?—A. I did along there where I found there was danger. I got inch boards and I put them behind the sheet-piling.

Q. And the work was done well?—A. As well as I could have it done.

Q. And still you expected that the sand was going o drift through so that there was going to be growling?—A. I expected it from the great wear of the waves, and from the ice, and from the wearing of the sheet-piling.

Q. Do you mean to say, as a matter of engineering, that a piling could not have been built at this place which would protect the canal from the sifting in of the sand?—A. I stated before that when I took hold of these specifications I reported to the governor that I did not think that the sheet-piling was the right thing there, but that there should be close cribs 600 or 800 feet from the lake shore. That was my opinion as an engineer. But I had to construct the canal as it was placed before me to do.

Q. Then in your judgment the specifications did not provide for a proper construction of this work?—A. According to my individual opinion, the crib work should have extended on farther. But that judgment came in after we saw the effect of the waves.

Q. And your judgment has been since verified by the fact as to this portion of the canal?—A. Yes.

Q. And it has been shown to be exact in regard to the pier work outside as to the deposit of sand?—A. I did not expect sand to go around twenty-one feet of water.

Mr. Redington said that he would here close his cross-examination, and Mr. Payson informed the witness that he was now at liberty to make any explanation that he desired.

The WITNESS. I was around the legislature a good deal during the session of 1874, and Governor Bagley asked me to come over to the executive room. He said that he wanted me to go to the lake, as there was a complaint about the filling in of the canal. I told him that, at the time, I expected there would have to be dredging in the future. This was in March or April. He said that he wanted me to go there as soon as I could. I said that I would go as soon as the ice was out. The opening

of navigation was very late that year. I met Governor Bagley again. He was down at my place and he asked me why I had not gone up to the lake. I told him I was waiting for the ice to get out. I went up there about the 1st of June, and I found on the 6th of June that the canal was filled with ice. I waited for several days. The ice was driven in by the north winds, to the canal, and made a dam across there. Then there came a south wind, and the ice went out. I went and took soundings, and I found near the light-house, near the Lake Superior shore, that little jetties or shoals of sand had come out and had shoaled up to about 11 or 12 feet of water. I so reported. That is the statement which I wished to make. I had forgotten it when I was asked the question.

By Mr. REDINGTON:

Q. What was the date of this second examination that you made?—A. June, 1874.

Q. What reason had the governor for sending you up there then?—A. I did not ask him his reason.

Q. Did he assign any reason?—A. No; he said that he wanted me to go and examine and see if there was any shoals in the canal.

Q. Do you know whether he had any reason to suppose that there were shoals there?—A. I do not. I do not recollect that he assigned any reason. I was a simple farmer there whom he happened to encounter, and he requested me to do this, as I had been engineer of the canal.

Q. Had you any conversation with Governor Bagley about it?—A. I had a good deal.

Q. Did you express any surprise at there being shoals there?—A. No; I told him when I gave up the work that there would require to be dredging there for several years.

Q. You told him that?—A. Yes; I expected that there would be the same dredging there as there had been in other canals under similar circumstances.

Q. And you were not surprised when he sent for you in June, 1875, and told you about these shoals?—A. I was not surprised at all.

Q. And you went up there and found that there were shoals?—A. I found some trifling shoals near the light-house.

Q. What would you call a trifling shoal?—A. I mean that they were not an absolute obstruction.

Q. Where were these shoals?—A. Near the light-house.

Q. Where is the light-house?—A. Near Lake Superior shore.

Q. At the end of the piers?—A. No; the light-house is on the main land.

Q. Were the shoals in the canal near the light-house?—A. Yes.

Q. Near the mouth of the canal?—A. Yes, sir.

Q. How far from the end of the piers?—A. I cannot tell you; I suppose from 1,200 to 1,300 feet.

Q. Was that the time that you saw Mr. Pryor dredging there in 1874?—A. He was not dredging there.

Q. He dredged afterwards, did he not?—A. Yes; I was there afterwards in connection with mining property.

By Mr. MCCARTER:

Q. You finished the canal in 1873?—A. Yes.

Q. And was it the next summer that you went back?—A. My impression is that the legislature sits in even years. When I went back it

was immediately following the session of the legislature. It sits once in two years.

Q. Can you tell whether it was in 1874 or in 1875 that you made this inspection?—A. It was the summer following the biennial session; and if the session was in 1874–'75, then it was in June, 1875.

Q. Can you tell in what year it was?—A. My impression is that it was in 1875. I think that the session was in 1874–'75; and, if that was the case, then it was in June, 1875, that I went there.

Mr. Montgomery explained that Governor Bagley's term commenced on the 1st of January, 1875.

Q. After hearing that explanation, can you tell us when it was that you went there?—A. I am not clear about anything except that it was after the adjournment of the legislature.

Q. (After further explanatory remark by Mr. Montgomery.) Now you can say whether it was in 1875?— A. Yes, sir.

Q. With reference to this diagram, Exhibit No. 1, that was prepared and shown to you by Mr. Redington, would it be possible for any engineer to give a reliable estimate as to the effect or as to the cost of such a breakwater as is shown on that diagram with no more data than you are possessed of?—A. I think not.

Mr. Payson remarked that it would be safe for Mr. McCarter to assume that the committee would exercise some judgment about that matter, and that he need not, therefore, waste any time upon it.

Q. Why would not a breakwater, such as is indicated by this diagram, Exhibit No. 1, "cover the canal" (to use your own expression)? What do you mean by that?—A. It would not cover the canal at all without these breakwaters that are already constructed there. With these breakwaters already constructed, it would make lee there, covering the canal from the northeast winds, but only from them.

Q. Suppose that the winds were to come from other directions than the northeast; what effect would such a breakwater have on the ease of access to the mouth of the canal?—A. Without much sea running, the breakwater, according to this plan, if the wind were coming from the northeast, would give a lee and easy access to the canal. But, supposing the wind to come from the northwest and to be blowing hard, it would pile the sea up and make a very rough place.

Q. Have you had experience and observation of other canals than this one?—A. Yes.

Q. Did you ever know a canal of any kind which did not require dredging out after a winter?—A. I will take a notable example—that great work through the Saint Clair Flats built by General Cram, of the Engineer Corps. They had unlimited money and unlimited engineering skill there. They built a channel 400 feet wide, with crib-work, and sheet-piling, and filling behind, and planting of trees, and all those things. I remember that there were a great many jams there. I was once on a steamer coming from Lake Superior, which got aground there, and the captain explained why it was. The sand would wedge in on account of the swift current, and would sift through all the appliances, sometimes reaching clear across the channel. The ice coming down would gorge in this canal, and pile up, and then the current would put the sand in motion and pile it up so that when the ice went out they were obliged to dredge out the canal or to take it out with propellers. Very often where the current is swift a great deal can be done by a propeller wheel in dredging. But in this canal there is no regular current.

Q. What canal do you refer to now in which there is no regular current?—A. The Portage Lake Canal.

Q. Would it clear itself like a river without a current?—A. No, sir. There are other places which require dredging out. It depends upon the material and the bank. At Lake George there is no great dredging required because the bottom there was a refractory clay, so that when a dredge would go down the bottom would come up like a candle out of a mold. That was a portion of Lake George.

Q. Is the canal through the Saint Clair Flats regularly dredged?—A. I do not know; I have not been over it for several years, because now we go to Lake Superior by rail all the way instead of by steamer.

By Mr. REDINGTON:

Q. Do you think it any excuse for this company's failure to build a proper canal, that some other companies failed in the same way?—A. I do not sit in judgment upon the company.

Q. Do you know what was the date of the last certificate of the governor as to the completion of this canal?—A. No, sir; not of my own knowledge.

Q. Did you make your report to the governor in writing?—A. No, sir; I made a verbal report.

Q. The same as you did to Governor Baldwin in 1873?—A. Yes, sir; that was all that was required.

Q. And you kept no memorandum of your report?—A. No, sir; I suppose that in my field-book there are some notes.

Q. You furnished none to the governor?—A. No, sir.

Q. You simply reported to him verbally?—A. Yes.

Mr. JAMES PRYOR was cross-examined by Mr. REDINGTON as follows:

Q. You said the other day that, in your experience as superintendent of the canal, you could not recollect but one vessel drawing 13 feet of water that ever passed through the canal. Can you recollect any boat drawing 12½ feet of water passing through it?—A. Yes.

Q. What boats, and on what occasion?—A. I remember last season the bark H. P. Tuttle passing through the canal with a cargo of coal from Keweenaw Point. Her usual draught, loaded, was 12½ feet.

Q. Was that her draught on this trip that you speak of?—A. It was on the most of these trips.

Q. Was that her draught, to your knowledge, on this trip?—A. That is what the captain told me. I do not recollect whether I noticed her mark or not. He came from Portage Lake with a vessel in tow, and discharged coal there, and went on through the canal to Eagle River, or to Eagle Harbor, I do not know which. He came back again by way of the canal to take his consort to Portage Lake. He did this three times, and he told me that his usual draught was 12½ feet.

Q. That was last year?—A. Yes.

Q. Did he tell you that he had that draught on this trip?—A. I do not recollect.

Q. Did you look to see?—A. I did not.

Q. Can you give me any instance that you know of that came under your own observation, where any vessel drawing 12½ feet of water passed through the canal, except the Northerner, in 1882?—A. The Northerner did not come under my observation.

Q. Go to what did come under your observation.—A. I have noticed several of the Transit Line of steamers lying at the docks at Portage Lake after passing through the canal from Duluth on their way to Buf-

falo, with their marks 12 feet, 2 or 3 or 4 inches below the surface of the water. Their ordinary depth in coming in would be 12 feet and 2 or 3 inches.

Q. Where did you ever notice such a case as that?—A. Right straight along for the last two or three years.

Q. Then you have seen vessels lying in Portage Lake drawing 12 feet and 2 or 3 inches of water, which came through this canal?—A. Yes.

Q. Within the last two or three years?—A. Yes.

Q. How many of them?—A. The Badger State and the Empire State were two regular steamers that ran to Duluth and back again.

Q. And these you recollect as having seen under such circumstances in Portage Lake?—A. Yes; sometimes their marks would be just about 12 feet, and sometimes 12 feet 2 inches, or 3 inches; in the neighborhood of 12 feet 2 inches to 12 feet 4 inches.

Q. And that was in the last two years?—A. Yes.

Q. Prior to the last two years do you know of any such instance?—A. In all of 1882.

Q. That is within two or three years; go back of that time.—A. The Northerner came there.

Q. That was in 1883?—A. In 1882—drawing 13 feet 2 inches. The steamer Osceola went through, and the captain told me he was drawing a depth of 12 feet and 6 or 8 inches.

Q. I do not want to know what the captain told you; I want to know what you saw yourself in regard to the depth of vessels passing through the canal. You said the other day that you knew of only one vessel drawing 13 feet, the Northerner. You said that she passed in 1882, did you?—A. Yes.

Q. Then I am mistaken in supposing that you said it was in 1883?—A. Yes.

Q. What vessels prior to 1880 do you know of having passed through that canal drawing 12½ feet of water?—A. I do not think I can recollect distinctly any one.

Q. Can you recollect distinctly any one drawing 12 feet of water that passed through the canal previous to 1880?—A. I presume they have passed through.

Q. Do you know of any that did?—A. I do not recollect the depth of the boats.

Q. Do you recollect of any passing through that drew 11 feet of water?—A. Yes.

Q. How many?—A. To cover that point I will just say—

Q. I do not wish you to cover any point, but to answer my question. Do you know of your own personal knowledge of any vessel passing through that canal prior to 1880 drawing 11 feet of water?—A. I cannot say that I observed the marks on any vessel.

Q. Do you know of any that passed through drawing 10 feet of water?—A. No more than I do of those that drew 11 feet. But this much I know——

Q. Just answer my questions. You say that the Osceola passed through there last year?—A. Yes.

Q. And the Northerner in 1882?—A. Yes.

Q. And that the Northerner drew 11 feet 2 inches of water?—A. Yes.

Q. How much did the Osceola draw?—A. About 12 feet.

Q. And that was in 1883?—A. Yes.

Q. Do you know a vessel called the Nyack?—A. Yes.

Q. Do you know of any instance last year of her attempting to get

through this canal drawing 13 feet of water, and being unable to do so, and having to go around Keweenaw Point, and to go into Portage Lake through the lower canal?—A. I do not know of any such case, though it may have happened.

Q. Do you know that to be a fact?—A. No, sir.

Q. Did you see the Nyack lying in Portage Lake last summer?—A. I presume that I did.

Q. I ask you whether you did or not?—A. As well as I recollect, I did see her there on several occasions.

Q. You saw the Nyack on Portage Lake last summer?—A. I presume so.

Q. Did you see her lying in Portage Lake on one occasion that she did not get through by this canal?—A. I do not recollect.

Q. Did you hear of any such thing in connection with that vessel last summer?—A. I do not recollect.

Q. You do not recollect whether you heard of it or not?—A. No, sir.

Q. I want to know whether you heard anything last summer about that vessel taking that trip around Keweenaw Point, because she could not get through the canal?—A. No, sir; I did not.

Q. Then you do not know any such instance in connection with the Nyack?—A. No, sir.

Q. Are you positive about that?—A. Last summer?

Q. I say do you recollect any case last year where the Nyack had to go around Keweenaw Point and to come through the lower canal to get to Portage Lake, because she could not get through this canal drawing 13 feet of water?—A. I do not recollect.

Q. Do you know anything about the Sault Ste. Marie canal?—A. No, sir.

Q. Do you know what depth of water there is in that canal?—A. I have heard that there is 16 feet depth of water.

Q. Do you know that to be the depth?—A. I do not; I have never been there.

Q. Do you know it to be a fact that vessels that come through the Sault Ste. Marie Canal have to lighten their load in order to get through this canal?—A. I know no such thing. I know to the contrary that it is not so.

Q. You do not know of any vessel drawing 13 feet of water that came through the Sault Ste. Marie Canal and had to go around by Keweenaw Point, because she could not get through this canal?—A. I do not think there has been any such case. If they were drawing such a depth of water as 13 and 13½ feet, and if they had no business in Portage Lake, they would certainly go round the point, and not go through our canal.

Q. Suppose that they touched at Houghton?—A. If they touched at Houghton they would discharge a portion of their cargo, and as a rule they would not draw more than from 11 to 12 feet, on their upper course.

Q. After discharging cargo at Houghton, and drawing 12 or 13 feet, do they go through your canal at all? Do they not go by Keweenaw Point?—A. I have told you about the H. P. Tuttle. That is an answer to your question.

Q. Do they not go to Portage Lake, and then go back and go up by Keweenaw Point?—A. No, sir.

By Mr. McCarter:

Q. Have you any record of the trips of the steamer Nyack?—A. I have.

Q. Tell what it is.—A. The Nyack, in 1881, made only one trip. She

was then a new steamer. She has the deepest draught of anything that goes on the lakes. In 1882 she passed the canal on trips 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, and 14, right to the end of the season. She did not come through on trips 1 and 2. In 1883 she passed through the canal on trips 1, 2, 3, 4, 5, 6, 7, 8, 9, 11, and 12, showing that she has gone through the canal whenever she needed to do so.

By Mr. REDINGTON:

Q. What was the draught of the Nyack on these occasions?—A. I cannot tell you.

Adjourned until to-morrow.

PORTAGE LAKE AND LAKE SUPERIOR CANAL.

COMMITTEE ON THE PUBLIC LANDS,
April 1, 1884.

JOHN H. FORSTER recalled.

By Mr. REDINGTON:

Question. Who was your predecessor in charge of the canal—the engineer?—Answer. Mr. J. N. Green.

Q. The same Mr. J. N. Green who prepared the specifications under which the work was done?—A. Yes, sir.

Q. He was the engineer appointed under the provisions of the State act?—A. He was appointed by Governor Crapo.

Q. Under the same provisions of the act of the legislature under which you were afterwards appointed?—A. Yes.

Q. Drawing his pay in the same way?—A. Yes.

Q. In technical engineering what is the prism of a canal?—A. The top, the sides, and the bottom of the canal form the prism. In this case it would be 100 feet on the surface, sloping down to about 80 at the bottom in a prismatic form.

Q. The second of the specifications reads as follows:

The prism of the canal to be at least 100 feet wide between the side walls, which are to be perpendicular, and 13 feet deep.

Does that mean that the perpendicular side walls of the canal should be 13 feet?—A. No, sir.

Q. What does it mean?—A. It means that it shall be as shown by this plan—that they shall be driven down in a toe which projects into the canal. That is left there in order to secure the piles, and to give them a firmer hold, and also, according to the specification, to secure the sheet piling.

Q. How high is the side wall of the canal constructed in this way?—A. I should think you could not come at it in dredging it precisely under water in that way.

Q. Then, the bottom of the side walls, although perpendicular, were covered with something in the inside of the prism?—A. The projection of this toe inside for engineering purposes was a part of the slope.

Mr. REDINGTON. Let me see if I understand you.

The WITNESS. That plan [indicating one of the exhibits] will illustrate it.

Q. The side walls of the canal were to be sunk to the depth of 13 feet?—A. No, sir.

Q. The specification says:

The prism of the canal to be at least 100 feet wide between the side walls, which are to be perpendicular, and 13 feet deep.

Now, tell me whether the side walls of this canal, constructed as you say they were constructed—driven down into a toe—were 13 feet deep. —A. Yes, sir. The main piles, 6 feet apart, were down below the surface of the canal—below the bottom of the canal.

Q. What do you call the side walls of the canal?—A. The side walls were composed of piling, main piling—sheet piling driven into the ground.

Q. In the toe?—A. Through the toe. The toe is left in order to secure the piles.

Q. Does the toe form part of the side wall?—A. Not necessarily, only incidently as being a part to sustain and support it.

Q. If that is so, and if the toe extends 6 feet from the bottom up, tell us how you have got a 13-foot wall unless the toe forms part of the walls of the canal?—A. In one sense it does. It is left there in order to secure the piles.

Q. Then the toe forms a part of the side walls, does it?—A. I should not say so. The piling and the docking form the wall, and it is secured by the toe.

Q. Was that put down to a depth of 13 feet?—A. Yes.

Q. Uncovered by the toe?—A. No, not the front. In the rear part, it was.

Q. Then you did not have a perpendicular side wall of 13 feet unless you count the toe as part of that wall?—A. We had a perpendicular wall of piling down there.

Q. The specification goes on further and provides something about the toe. It says, "There shall be a triangular toe or slope of bank left in the bottom angle to hold and support the sheet piling." Is that the toe you speak about?—A. Yes.

Q. And it is a triangular bit of earth at the bottom of the wall, formed by the sheet piling, and put in there for the purpose of holding the piling in place?—A. It is merely an extension of the slope of the canal.

Mr. PAYSON. Is it put there or left there?

The WITNESS. It is left there.

By Mr. REDINGTON:

Q. What is the purpose of it?—A. In order to make the piles more secure.

Q. That thing called a "toe" is a bit of earth which remained there jutting up against the bottom of the piling, and its object is to hold the piling in place, is it not?—A. The object of it is to give greater security to the piling.

Q. The specification further provides for the dimensions of the toe. It says that it shall be not "more than 6 nor less than 5 feet high above bottom, with a slope not flatter than 1½ horizontal to 1 perpendicular." Now tell me how far such a slope as that forming the toe would extend from the side of the canal into the channel.—A. Practically from 8 to 10 feet.

Q. Not more?—A. No. But I will state——

Mr. REDINGTON. You need not state anything, but answer my questions.

Mr. PAYSON. The witness has a right to make his answer more intelligible. At any rate, we will concede the right to him to make any explanation he pleases so that his answer may be regarded as intelligible.

The WITNESS (to Mr. Redington). By your question you would confine me to having a slope of 13 feet under ground. Now, I would ask anybody who knows anything about engineering how that could be done precisely with a dredge under water?

By Mr. REDINGTON:

Q. That is what the specification requires, is it not?—A. Yes.

Q. Is that what you did?—A. Yes, as nearly as possible—as nearly as it could be done.

Q. How nearly did you come to it?—A. As nearly as practicable.

Q. How near would it be practicable?—A. I cannot tell you.

Q. If you had perfected and completed that work according to the specifications, you would have had the side wall driven down 13 feet into the bed of the canal, and then you would have had a slope not more than 6 feet above the bottom of the canal and extending not more than from 10 to 13 feet into the channel (is that so?) before you struck the required depth of water in the channel?—A. Yes, sir; practically.

Q. What do you mean by the berme of the canal?—A. The berme of a canal is the bench. In an ordinary canal it is the space between the foot of the slope and the water; it is the bench; in fortifications, it is the space between the upright walls of the fortifications and the ditch or moat.

Q. The sloping part?—A. Yes.

Q. It is really then the top of the canal?—A. It is the space that is left between the top of a canal and the slope or cut coming down; the object of it is to prevent the sand from coming down, but in modern engineering they do not regard that bench at all.

Mr. PAYSON. It corresponds to the tow-path on the opposite side, does it?

The WITNESS. Yes, sir.

WASHINGTON, D. C., *April* 1, 1884.

EZRA T. WILLIAMS sworn and examined.

By Mr. MONTGOMERY:

Question. Where do you live?—Answer. In L'Anse.

Q. How long have you lived there?—A. About nine years.

Q. Where did you live before that?—A. In Houghton, and different places on the lakes.

Q. What is your present occupation?—A. River and harbor constructing.

Q. How long have you been employed about that?—A. I have been in the business since 1858, on Lake Superior and its tributaries.

Q. During that time, since 1858, have you had occasion frequently to examine piers, harbors, and works of that character?—A. I have been in that business all the while, and have done nearly all kinds of this work.

Q. How exclusively have you been employed in this construction business?—A. Our working for the last few years has been principally in dredging.

Q. Are you the owner and proprietor of several dredges?—A. Yes; our firm, of which I am the head, has eight machines.

Q. Do you know something about this ship-canal on Portage Lake?—A. Yes; a little.

Q. Were you employed upon it once during its construction?—A. I was, for a short time.

Q. You were never employed upon it, I believe, except a short time in the summer of 1870, until 8 or 9 years afterwards?—A. The second time that I was employed upon it was, I think, in 1879.

Q. By whom were you employed at that time, and for what purpose?—A. I was employed by the present canal company, through Mr. Pryor, the superintendent. I was employed to deepen portions of the canal.

Q. Did you do that work in pursuance of your employment?—A. I did.

Q. At what part of the canal did you commence the work?—A. I think we commenced on the outside bar.

Q. At what time of the year did you do it?—A. It may have been late in May; I should judge it may have been about the middle of May.

Q. How long did it take you to finish what you had to do?—A. I should judge that we were working there for a month or six weeks.

Q. Where was the outside bar on which you say you commenced work—with reference to the end of the piers?—A. We commenced, I should judge, a little inside, within the piers, and worked out.

Q. How far out did you work?—A. I should judge from 200 to 300 eet.

Q. What part of the compass does that canal front?—A. It fronts nearly north—I think a little west of north.

Q. And you commenced at the end of the piers and worked out about 200 feet into the lake?—A. Yes.

Q. What depth of water did you find at the end of the piers?—A. As reported to me (I did not sound it), there was a depth of 10½ to 11 feet of water between the piers.

Q. What depth of water did you find at the end of the 200 feet?—A. We dredged farther than that. We ran the cut out to about 15 feet of water.

Q. That was some 300 feet north of the end of the piers?—A. Yes.

Q. How many cuts did you take from the end of the piers to the place where you stopped?—A. The first season (1879 or 1880) we made three cuts.

Q. Tell us what a cut means.

Mr. DAVIS. Was the witness there two seasons?

Mr. MONTGOMERY. We are now referring to 1879. [To the witness.] Please to tell us what you mean by a cut.—A. The average of a cut was about 25 feet wide.

Q. You made three cuts outside of the piers?—A. As I recollect, we made three cuts.

Q. How deep did you go?—A. We dredged for 15 or 16 feet.

Q. That is, you made the depth of water from 15 to 16 feet?—A. Yes.

Q. Then, in order to summarize your testimony, you made a cut 75 feet wide and 16 feet deep, and from 200 to 300 feet long?—A. The cut would go probably from 14 to 16 feet. Of course the bottom is uneven.

Q. Your aim was to secure what depth of water?—A. Fifteen feet.

Q. Why did you confine yourself to a 75-foot cut; why did you not cut the whole width of the channel?—A. That was the instructions which we had.

Q. When you finished that cut out into the lake what did you do?—A. We worked inside when the weather would not allow us to work outside; we dug some through the center.

Q. Did you cut all the way from the end of the pier in as far as you went?—A. That was done during the time we were there.

Q. How far inside of the shore did you go?—A. Five or six hundred feet, I should say.

Q. Inside of the shore?—A. Yes, sir.

Q. How wide a strip did you cut inside?—A. We took two cuts inside.

Q. About 50 feet?—A. Yes, sir.

Q. And to what depth?—A. To the same depth, 15 or 16 feet. We made the same depth of water. I did not do any of the soundings; but we had orders to dig 15 or 16 feet deep, which we did, and two cuts wide through the canal for whatever distance we went.

Q. During that dredging did you ever encounter any bowlders?—A. It was so reported by our men. I saw one.

Q. Where was it found, and what size was it?—A. One bowlder was found outside of the shore-line of the canal.

Q. Do you recollect how far outside?—A. I have no recollection exactly. It may have been two or three hundred feet.

Q. At what location in regard to the center of the canal?—A. As nearly as I recollect, it was about in the center of the canal—practically in the center.

Mr. McCarter objected that a large part of this testimony was hearsay, and he moved to strike out all that part of the testimony as to the depth, and as to where the bowlder came from, except it was within the witness' own knowledge.

Mr. Payson said that the witness, of course, should confine his statements to his personal knowledge.

Mr. Montgomery remarked that that would depend upon the purpose of the committee.

Mr. Payson said that, if objection was made, the witness should be restricted to what he knew personally.

By Mr. MONTGOMERY:

Q. You told us that you saw a bowlder yourself?—A. I saw one bowlder.

Q. Can you tell its weight or dimensions?—A. I should judge it would measure from 10 to 15 cubic feet.

Q. How much would it weigh?—A. I cannot tell. I do not know the weight of different characters of rock sufficiently to estimate its weight.

Q. You have some idea of it, have you not?—A. My memory is very deficient. I would not give any estimate of its weight.

Q. Give the committee some idea of its dimensions. How large was it across the top, and how thick was it?—A. It was a roundish bowlder about three feet one way, and about two and a half feet the other way. The thickness of it I could not get at. I do not recollect it distinctly enough. I paid no attention to it at the time; it was simply done by my men.

Q. How far below the surface of the water was the surface of the this bowlder?

Mr. McCarter objected to the question. He said that if that matter was to be gone into, the employés who found the bowlder would have to be produced. This gentleman, the witness, had merely been super-

vising the work. He was not there when the bowlder was taken out, but his workmen told him it had been taken out.

Mr. Montgomery supposed that the committee would be desirous of hearing whatever would contain important facts.

Mr. Payson said that the witness ought to be restricted to information within his own knowledge on this question.

By Mr. MONTGOMERY:

Q. Do you know anything about sheet-piling?—A. I have seen sheet-piling used in different places.

Q. Was sheet-piling used in the construction of this canal?—A. Yes.

Q. Do you remember whether it was used on both sides of the canal, and for what length?—A. I always supposed it was used on both sides of the canal, but I am not sure about it.

Q. What kind of timber was employed in the sheet-piling on this canal?—A. Pine, as I understood it.

Q. Of what thickness?—A. Four inches in thickness, I believe.

Q. How was that sheet-piling put in in the construction of this canal?—A. It was driven with a pile-driver, I suppose.

Q. I mean where was it used; and what purpose was it intended to serve?—A. It was intended to hold up the bank on each side of the canal.

Q. Were you called upon the next year to do some dredging in this canal?—A. Yes.

Q. In what time of the year did you do it?—A. Early in the season—in May or June; I do not recollect which.

Q. How extensively did you dredge there the next season?—A. I think we removed four cuts on the outer bar.

Q. You commenced near the end of the pier?—A. Yes.

Q. And went out how far?—A. About 300 feet.

Q. What depth of water did you find that spring?—A. I did not do any sounding.

Q. How much earth did you take out on that occasion?—A. I cannot state positively. I have so many machines to look after that I do not get hold of engineering.

Q. Do you recollect how many cubic yards of earth were taken out?—A. I do not.

Q. Did you dredge by the cubic yard?—A. Yes; I have no recollection of the number of cubic yards that were removed there either year. We were doing so much work in other locations that my attention was not confined to this matter. I did not see the machine more than once a month, I suppose.

Q. You told us that, the first season, there was 10 feet of water there. How did the depth the second year compare with that?—A. My impression is that the second season the water was a little better on the bar.

Q. Did you take out four cuts that season?—A. Yes.

Q. How did it happen that you only took out three cuts the first season, and that you took out four cuts the second season?—A. I cannot account for that, only that I was under orders.

Q. There was a bar of sand, was there not?—A. Yes.

Q. What kind of sand was it?—A. Loose, light sand.

Q. How far did that bar extend with reference to the mouth of the canal? Did it extend entirely across the whole width, 250 feet?—A. I cannot state positively. I never did soundings there.

Q. Suppose that a vessel were coming into the canal, and that she

was not able to strike the 50-foot channel which you dredged, what would be the result?—A. I think she would go aground if she were drawing any draught of water.

Q. Would not that sand level up, substantially, pretty soon?—A. Yes; any sand will form a level with the action of the sea.

Q. After you finished the four cuts outside of the piers the second year, did you then dredge back inside the piers; and, if so, how far back did you go?—A. To the best of my recollection the work which we did inside the second year was down near the lower end. I have no recollection of doing anything along by the upper end.

Mr. PAYSON. Which was the lower end—Portage Lake?

The WITNESS. Yes; between the piers and outside the piers.

By Mr. MONTGOMERY:

Q. Is there any harbor at the mouth of Portage Lake Canal, or has there ever been any there?—A. It has not been considered or looked upon by sailing men as a harbor.

Mr. McCarter objected to the question and answer and moved that they be stricken out.

Mr. Payson remarked that the preliminary proof had not been made to show that the witness was an expert or a scientific man, but that the plans were before the committee, and of course the committee could judge as well as the witness could on that subject. The committee could see by the plans whether there was a harbor there. The question of what technically constituted a harbor among scientific men or engineers would probably come within the same rule as the question of what constituted a breakwater. While the witness had experience in the matter of dredging and such kind of work, still he might not know what among engineers a technical term might mean; that might or might not be so. It did not appear yet that witness did know.

Mr. Redington said that the witness could answer the question as to whether there was a harbor there, whether he was an expert or not.

Mr. McCarter objected, because it necessarily involved the question whether the witness knew what was meant by a harbor.

Mr. Payson said that the objection would be considered as made, and that to save time it was overruled.

Mr. MONTGOMERY. I simply inquired of the witness, not whether a harbor was technically constructed there or not, but whether there has been, practically and actually, any harbor there at all.

The WITNESS. Practically there has not been; not what was intended to be.

By Mr. MONTGOMERY:

Q. You are not an educated engineer, are you?—A. No, sir.

Q. You never made engineering a profession?—A. No, sir.

Q. How old are you?—A. Forty-five.

Q. Since when have you been employed in this work?—A. Since 1858, in the Lake Superior country.

Q. Have you been employed during that time in the construction and repairing of harbors, and harbor work, and piers, and things of that kind?—A. Yes; that has been my business.

Q. Has your employment brought you in contact with them so that you have examined and had to do with a good many harbors and piers and breakwaters?—A. We have built a few piers; we put in the first pier at Portage entry; also two at Lac la Belle.

Q. Do you know anything about breakwaters?—A. I have a general knowledge of them.

Q. Have you seen any of them and examined them?—A. Yes.

Q. What breakwaters have you seen?—A. One at Marquette and one at Duluth.

Q. Since 1857 have you had any other employment than that which you speak about?—A. No, sir; that has been my exclusive business—river and harbor improvements.

Q. You think you know what a harbor is when you see it?—A. I supposed I did.

Q. Tell the committee how, in your judgment, that bar of sand out there was formed?—A. It was formed by the wash of the banks in the inside of the canal, and was carried out by the current and by the suction of the boats.

Q. You say that it was washed from the banks into the canal, and then carried out by the action of the water and of the boats and deposited at the mouth?—A. The sand worked down through the sheet-piling and was carried out by the action of the current and of the boats, and where it met the sea it was deposited.

Q. Is there some current there?—A. There is.

Q. What is the prevailing current?—A. There is no rule as to a prevailing current. The strongest current I ever saw there was running out of the canal. At one time when I had our machines there, I judge that the current was running out of the canal at the rate of three miles an hour. I judge that the dirty water could be seen for three miles out of the canal in Lake Superior.

Q. Could not that drifting and carrying out of the sand be remedied in some way?—A. Yes; in my judgment it could be.

Q. Is there any practical difficulty about remedying it?—A. I never thought that there was.

Q. Did you ever talk with Mr. Pryor on the subject?—A. Yes.

Q. How many times did you talk with Mr. Pryor about it since he was superintendent of the canal company?—A. I cannot say how many times. I have given my opinion several times on the subject.

Q. Did you hear the testimony given by Mr. Forster here yesterday?—A. No, sir.

Q. You did not hear him explain his opinion as to the value of the sheet-piling?—A. No, sir.

Q. Do you believe it possible to sheet pile there so as to make a proper canal?—A. No, sir.

Q. What would have to be done before the canal could be properly constructed and a harbor made there, in any sense of the term?—A. It would be necessary to crib it well in the inside as far as the high banks of sand extend.

Q. Why?—A. There is a bank of sand there from 10 to 20 feet above the water, and there must be there something very substantial to hold that bank up.

Q. What would do that?—A. Cribs.

Q. Have you ever talked with Mr. Pryor about your doing it yourself?

Mr. McCarter objected that it was not competent to show conversations between the witness and Mr. Pryor. In the first place, anything said by Mr. Pryor could not bind the company; and in the next place, a proposition to a subordinate officer could have no effect upon the company, except it was shown to have been communicated to the company.

Mr. Payson said that practically it would only amount to the opinion

of the witness as to what a proper construction of the canal would be. He thought it would take less time to hear it than to debate the question. [To the witness:] State the substance of any conversation you had with Mr. Pryor in regard to the matter.

The WITNESS. I talked with Mr. Pryor in regard to the matter as well as with other parties, and gave my opinion as to what was requisite there to make a permanent channel.

By Mr. MONTGOMERY:

Q. When did you do that first, so far as Mr. Pryor is concerned?—A. I cannot tell.

Q. Did you say so to him while you were at work there?—A. I cannot say. I have lived in that country and am familiar with everybody there.

Q. What did you tell Mr. Pryor would have to be done, in your judgment, before they would have a harbor there?—A. I told him they would have to crib those banks.

Q. Do you still think so?—A. Yes.

Q. Is it possible to make a harbor there without building a breakwater or cribbing the canal?—A. The only way to build a harbor there is to secure these banks.

Q. If you were going to construct cribs of the kind you have indicated, how far would you go with them, and then how far would you go with the piers?—A. In my opinion it would be necessary to extend these piers into at least 25 feet of water.

Q. You say that cribs should be built back as far as the sand-banks extend?—A. Yes.

Q. And they should be made substantially sand-tight?—A. Yes.

Q. And that the piers should be extended into 25 feet depth of water?—A. Yes.

Q. And then there would be no sand to be washed out?—A. No. The sand could not drip through or work under. It would be necessary to put the cribs down to the canal bottom, or it would be better still to put them down a foot or two below the canal bottom.

Q. In your conversation with Mr. Pryor did you make a proposition of that kind?—A. I do not know that I did to him, but I made the remark to other parties.

Q. How long, in your judgment, would a canal constructed in the way you have indicated, and a harbor, last there, and answer the purpose without any repair or dredging at all?—A. I have no hesitation in saying that it would last ten or fifteen years; it would last practically as long as the timber work held sound and did not decay.

Q. What do you suppose would be the expense of putting in these cribs and building them out into sufficient depth of water?—A. I cannot give any accurate figures as to the cost.

Q. What is your best estimate of the cost?—A. In a rough estimate I should say about $250,000.

Q. If this work should be arranged in the way that you have indicated, would that make a harbor?—A. I should consider it a harbor.

Q. Tell the committee how, with the work you have done in the canal and with your knowledge of it, it is possible for two vessels heavily loaded to pass each other in the canal?—A. I never saw two vessels pass each other in the canal unless they passed right between the outside piers before entering the canal itself—either there or down at Lily Pond.

Q. How far is that from the shore line of the canal?—A. I should judge it is about two-thirds of the way.

Q. Suppose that a vessel entered the canal and passed the shore line on the way to Portage Lake, and at the same time another vessel left Portage Lake for Lake Superior, where would the two vessels naturally meet?—A. I could not tell; one vessel might be traveling faster than the other; Lily Pond is about one-third of the distance between Lake Superior and Portage Lake.

Q. If they should meet at any place except Lily Pond, would it be possible for them to pass each other?—A. Not, in my opinion, if they were loaded.

Q. Do you know anything about the Sault Ste. Marie Canal?—A. A A little.

Mr. Payson inquired as to the importance of that inquiry, and reminded counsel that the scope of the inquiry was to determine the character of the canal at the time it was accepted by the State of Michigan. That was the point of inquiry to which the subcommittee was limited. The act of Congress provided what should be done as to the grant of land. It being asserted that the canal was not constructed as required by law, the subcommittee was restricted to the inquiry as to the state of affairs when the canal was accepted as a completed canal by the State of Michigan. He was at a loss to understand how an inquiry as to the Sault Ste. Marie Canal could have any bearing on the question. He asked Mr. Montgomery what he proposed to prove by the witness in that matter.

Mr. Montgomery said that he proposed to prove that up to two years ago the old Sault Ste. Marie Canal had only 12 feet of water, and that vessels that came through that canal were habitually compelled to lighten before they could pass through the Portage Lake Canal.

Mr. PAYSON. Why not get at that by showing the depth of water in the Portage Lake Canal?

Mr. MONTGOMERY. We cannot do it. But suppose we can show that boats which passed through the Sault Ste. Marie Canal, which had only 12 feet of water, could not pass through this canal.

Mr. PAYSON. The point is, what was the condition of the canal at the time it was accepted by the State of Michigan. Anything bearing on that point is competent.

Mr. MONTGOMERY. If I show that vessels which went through a canal having 12 feet of water could not pass through this canal——

Mr. PAYSON. You have not indicated what year it was. You must confine the inquiry to about the time when the canal was accepted by the State of Michigan as a completed canal.

Mr. MONTGOMERY. And can we not present any testimony as to what the canal has been since that time?

Mr. PAYSON. I do not think so.

Mr. MONTGOMERY. Does not the condition of the canal in 1879 or 1880 prove what it must have been originally?

Mr. PAYSON. No; I do not think it even tends to prove that. If there were 13 feet of water in the canal at the time that it was accepted by the State of Michigan, and if sand drifted into it the next year, reducing the depth of water in it, that would not even tend to prove that there was not 13 feet of water in the canal at the time that the State of Michigan accepted it. It would be competent for you to prove the condition of the canal during the navigable season of 1873 or 1874. But when it comes to 1877, 1878, or 1880, if you were to prove that there

was not 4 feet of water in it, that fact would not even tend to prove that there was not 13 feet of water in it in 1873.

Mr. MONTGOMERY. We have attempted to show that this canal was improperly constructed. The construction of a canal does not all consist of the excavation. It consists largely in providing suitable protection for the work in the way of cribs and sheet-piling. This canal has never answered the purposes of navigation. Congress gave to the State of Michigan 400,000 acres of valuable land for the purpose of securing a certain result. What was the result? It was to aid and assist in the commerce of the great lakes. It was to prevent the necessity of vessels going around Keweenaw Point. We say that the canal never was in shape to permit that, and that there should have been some cribs built, or something to protect the canal. If the canal had been properly constructed and then had failed, without fault on the part of the company, that would be one thing; but if the filling up of the canal from season to season has been because the walls were not properly built, I think it is competent to show that fact.

Mr. PAYSON. That would be an argument for the full committee to say whether the investigation should proceed further. It was concluded by the committee that the question to be determined was the condition of the canal before it was turned over to the State of Michigan, the judgment of quite a number of the members of the committee being that if the act of Congress contemplated the construction of a canal 100 feet wide and 13 feet deep, and if such a canal was constructed and was satisfactory to the State of Michigan, then, from the time of its acceptance by the State, it was a matter for the State of Michigan to determine, and one with which Congress had nothing whatever to do.

Mr. MONTGOMERY. I did not know that that was the decision of the committee.

Mr. Redington argued that it was not enough to construct a canal or to dig a ditch 100 feet wide and 13 feet deep. That did not make a canal in the technical sense of the word, to say nothing of the results produced or of the results contemplated by Congress. If the work was not done properly, there was no canal and no harbor. There were two ways in which to prove whether the work was done properly: In the first place, it could be proved by showing how the stakes were driven, how the piling was put in, how the cribs were built, and how the piers were built. But it could be shown better and more convincingly to the mind of anybody by showing what the result has been. If they could go on and show, as he claimed they could, that the result was that from these immense sand hills the sand drifted into the channel, and that the canal was not navigable, then there never had been a canal there. It was not a question of what occurred at the time. The result afterwards was the fact which proved inevitably that the construction of the canal was not properly done. In 1873, and up to within two years past, there was a canal with 12 feet of water, the Sault Ste. Marie Canal, through which all the navigation proceeding westward had to pass. It passed through that canal with 12 feet of water safely, and if it could be proved that all this navigation, throughout all these years, passing through the Sault Ste. Marie Canal, had, when it got to the Portage Lake, to be lightened, that would show that there had been no proper completion of the Portage Lake Canal in 1873. The proposition was to prove that not only was that so in 1873, but that it had continued until the present day uninterruptedly, and that every year since then the canal company had been obliged to dredge the channel in order that vessels drawing even 9 feet of water might get through. If that was not proper

evidence going to show that the Portage Lake Canal was not completed in 1873, that fact could not be shown, and no condition of affairs could exist by which it could be shown.

Mr. McCarter said that it seemed to him that the committee was asked to begin at the wrong end, and to say that, because the results that followed from natural causes had tended to make the canal less navigable years after it was constructed than it had been when it was finished, the canal was therefore not properly constructed. The land was granted by act of Congress to the State of Michigan, with only one condition. That was, that the canal should be 100 feet wide and 13 feet deep, with a harbor and breakwater. All the rest had been left to the judgment of the State of Michigan. All the details, all the method of construction, everything that was to determine the character of the structure otherwise than as indicated by the act of Congress, had been left to the judgment of the State of Michigan, and wisely left there. The State of Michigan had authorized plans and specifications, and on the performance of them the land granted by Congress vested in the canal company. There was no possible way for the canal to be built except according to those plans and specifications. The question had been delegated by Congress to the State of Michigan, and the State of Michigan had adopted plans and specifications for the building of the canal. The canal company could not say that it would not build the canal according to those plans and specifications. The canal company was not the judge of that, but the State of Michigan was. The canal was built and was accepted by the State of Michigan. It might be that the canal was not as perfect as if the walls had been built of stone—of masonry and cement. It might have been more perfect if it had been lined with plank all the way through. But the State of Michigan had not adopted that plan. Supposing it were admitted that the State of Michigan adopted a plan which was imperfect and which made the canal not so capable of general use as a more expensive and different plan would have done; was that the fault of the company which built the canal, and could Congress, or could even the State of Michigan say to the company that the company had not built such a canal as Congress had required to be built, even although the company had complied perfectly with the plans and specifications of the State of Michigan? It seemed to him that the inquiry was getting away from the question as to whether the canal had been built according to the contemplation of the act of Congress, and getting to the question whether it had been built according to what, after ten years' experience, would appear now to have been a better plan. It was a *non sequitur* to prove that, ten years, or eight years, or seven years after the canal was built, it filled up with sand, and to argue from that that therefore it had not been built according to the plans and specifications of the State of Michigan, or according to the act of Congress.

Mr. Payson, after consultation with his colleagues, said that for the present, at any rate (assuming that the printed specifications were those which the canal company were bound by, and that that was the kind of canal which the company was bound to build), any testimony bearing upon the question of the condition of the water and of the difficulties of navigation during the season of 1873 and 1874 would be allowed, but that subsequently to that time such testimony would not be competent.

Mr. Montgomery expressed the fear that his side would be constantly embarrassed by this decision of the subcommittee. His understanding had been that the scope of the subcommittee was much larger than that.

Mr. Payson said that the subcommittee did not assume to decide the

question at all, further than as bearing upon the admissibility of evidence. It was the duty of the subcommittee to determine whether the canal company had done what it had agreed to do. That was to be reported to the full committee, and the full committee would then consider whether any further action would be taken on its part.

Mr. MONTGOMERY. Our understanding was that we should be allowed to show by any competent evidence that the canal not only was not properly constructed, but that it never answered the purposes of navigation from the day when it was claimed to have been completed up to the present time. We are prepared with that proof to show that this canal has not, from the day it was claimed to be completed up to the present time, been actually completed, or served the purposes for which the nation gave 400,000 acres of land. Not only has it never answered the purpose, but it has been grossly incomplete. Now, I suggest, respectfully, whether it would not be well for us to withhold the proof we have here for a day or two, in order that the subcommittee may go before the full committee and get some more specific instructions as to the inquiry. If the inquiry is so narrow as is suggested, very much of our proof would be of no consequence at all.

Mr. PAYSON. There never has been any secrecy about this matter in committee. It was not decided in executive session, and I am not revealing any committee secret when I say what I understand the facts to be. A proposition was made to have a full and general investigation, and to let in everything that might be offered on both sides, not only as to the construction of the canal and as to its condition during all those years, but also to determine the fact whether or not the canal company had selected its lands next nearest the line of the canal, first, as to the first 200,000 acres, it being conceded that as to the second 200,000 acres the selection was not so made. Mr. Oates offered a resolution, the substance of which was that the committee in the first instance should determine the question whether or not the canal was constructed in accordance with the contract between the canal company and the State of Michigan, that being the first matter to be determined. Mr. Oates was of the opinion that if the canal was constructed in accordance with the plans and specifications and was accepted by the State of Michigan, the United States had no further interest in the matter; that if it was satisfactory to the State of Michigan, it would be satisfactory to the General Government. It was universally agreed to by the committee that the question should be first examined as to whether the canal had been completed in accordance with the contract between the canal company and the State of Michigan. Mr. Oates offered a resolution to that effect, but Mr. Cobb said there was no necessity for encumbering the record with the resolution, because the scope of the inquiry would be restricted to that phase without it; and then Mr. Oates withdrew his resolution, and it was agreed that evidence should be heard on this point, and on this point alone; and that, if the evidence showed that the canal was constructed in accordance with the purpose of the United States, the inquiry would not go further. That being so, we are inclined to restrict the inquiry before this subcommittee to the position which I have indicated. Anything bearing upon the question of lack of construction, or defective construction, as a question of fact, or upon the condition of the water in the canal during the season after it was accepted by the State authorities of Michigan, the subcommittee will hear; but outside of that we do not think we would be authorized or justified in hearing testimony.

Mr. MONTGOMERY. I do not think we differ as to the results to be

aimed at. But is it competent for me to prove what we have offered to prove—that ships passing through the Sault Ste. Marie Canal, in which there was only 12 feet of water, have always been, and are now, unable to pass through this Portage Lake Canal?

Mr. PAYSON. If you restrict that proposition to certain years we will understand each other.

Mr. MONTGOMERY. I do not suppose that I can do so as a matter of fact.

Mr. PAYSON. Show it if you can for the period of 1873–'74.

Mr. MONTGOMERY. If the inquiry is to be so narrow as that, I suggest whether it would not be better to take the instructions of the general committee as to whether or not proof will be received on this point—as to whether the canal, from the time it was constructed up to the present time, has ever answered the purpose for which the lands were granted.

Mr. PAYSON. I understand that you want to show by this witness that the Sault Ste. Marie Canal had a depth of water of 12 feet up to a given time, and then to prove that some boats which went through that canal could not go through Portage Lake Canal?

Mr. MONTGOMERY. I said every boat habitually.

Mr. PAYSON. Why not restrict it to the years which we regard as specific?

Mr. REDINGTON. We propose to cover every year from 1873 to the time when the Sault Ste. Marie Canal was enlarged. I want to remind the committee that this Portage Lake Canal was completed late in the fall of 1873, and that there was no season of navigation through it until the season of 1874. I undertake to prove, and I offer to prove, that this Portage Lake Canal is so defectively constructed that, from the opening of navigation in 1874 up to the present date, the canal has been practically useless for all purposes of navigation in respect to deep-draught vessels, and that through these years all the vessels navigating the upper lakes, which passed through the Sault Ste. Marie Canal having 12 feet of water, were obliged to unload in order to get through the Portage Lake Canal, or else to turn around, come out at Portage River, and come around Keweenaw Point. That is my proposition. I think that that is strictly competent legal evidence. Conceding that this subcommittee is limited to an inquiry as to whether the canal was properly completed in 1873, I contend that the proof which I offer is strictly competent and that it is not evidence of after facts at all. It is evidence to show, or tending to show, that in 1873 this canal was not completed. That is exactly the point. When we get to that point, what is the position of the subcommittee? It rules upon the competency of evidence, and decides that evidence which we say is competent to prove the material fact is not competent. Now, are we going to stop with the subcommittee because, in its judgment, the evidence is not competent, or are we to take the judgment of the full committee on that subject?

Mr. PAYSON. Of course you have the right to take the judgment of the full committee. But we do not propose, every time that an objection is made and overruled, that the subcommittee will rise and refer the matter to the full committee. Life is too short for that.

Mr. REDINGTON. I have been embarrassed here for the last two or three days, feeling as if I was occupying the position of a public prosecutor and was trying somebody for murder, and that all the safeguards which, in the leniency of the law, are thrown around criminals, were being thrown over this canal company. I do not so understand my po-

sition. When a reputable gentleman from the Northern Peninsula of Michigan, representing reputable citizens, comes here to this committee under a resolution offered in the House by a member of Congress from Michigan, and prefers to this committee information on which it may, if it chooses, ascertain the truth and determine that 400,000 acres of the public lands were conveyed away to the State of Michigan, and were taken by this canal company in violation of the provisions of the act of Congress making the grant—I say that when I come here on behalf of those gentlemen, I am not here as a public prosecutor, and that when I tender to the committee the means of ascertaining this fraud and determing this steal, I should not be bound down by the technical rules by which a district attorney is bound when he is prosecuting a man for murder. I offer to prove that the United States made a contract with the State of Michigan to do a particular thing in consideration for which the State of Michigan was to have 400,000 acres of land; that the United States dealt with the State of Michigan and not with this canal company, and that it gave the grant on that condition. I offer to prove that the condition has been violated, and that, from 1873 to the present day, there has been no canal, no breakwater, no harbor there. I propose to prove that, by proving that from the very commencement of navigation in 1874 up to the present time, navigation has found no harbor there, has found no canal there, and has found no breakwater there. If we are put now in such a position by the ruling of the subcommittee that we must confine ourselves to the work done on those original specifications made by the authority of the State of Michigan, we might as well just stop here, and the Government might just as well say now that it is powerless under any circumstances to reclaim a grant of this kind stolen from the public domain. So we have no proof to offer on that point.

Mr. PAYSON. On what point?

Mr. REDINGTON. On the question whether the canal was completed in accordance with the specifications. But we do say that the evidence already in shows that it was not completed in accordance with the specifications. I recalled Mr. Forster this morning, and he admitted that the canal was not constructed in accordance with the specifications so far as the toe at the bottom of the canal was concerned. The United States made no contract whatever with this company. It made a contract with the State of Michigan. And we claim that the contract which was made with the State of Michigan is the one that is to be complied with, and if the State of Michigan chose to give away this land grant to a company which had not complied with the terms imposed upon her, she cannot escape responsibility. When the United States Government gives away public domain to a State it imposes conditions subsequent. It reserves to itself the power to enforce them, and reserves the power, the exclusive right, to determine when the breach of conditions occurs. The proposition on the other side is that if the State of Michigan turned around and said to the canal company, "You may do something else," and if the canal company did that, it was relieved from responsibility to the Government of the United States.

Mr. PAYSON. I have not heard that argument from anybody.

Mr. SHAW. I do not know that any member of the committee has ever heard that doctrine suggested.

Mr. MCCARTER. We never contended for that.

Mr. REDINGTON. What else does it mean? You say that we must confine ourselves to the construction of the canal under the State specifications. Now, we assert that the State specifications are contrary to the

act of Congress, and if we are to follow your instructions that is exactly the doctrine as I have stated it.

Mr. VAN EATON. There is nothing in the act of Congress, I believe, except what is contained in the first section of the first act. It provides "that not more than 1,000 feet in width on the bank of Lake Superior shall be occupied by said breakwater and harbor, and that a strip of land not more than 400 feet in width on the bank of Lake Superior shall be occupied by said breakwater and harbor, and that not more than 400 feet in width on said neck of land shall be occupied by said canal: *And provided further*, That said ship-canal shall be at least 100 feet in width, with a depth of water not less than 13 feet."

Mr. MONTGOMERY. Yes, but we say that the act of Congress contemplated (and that that was the primary purpose of the act) to secure a harbor and breakwater and ship-canal there, and we say that the Government has secured neither. These gentlemen cannot screen themselves by saying, "We did everything which the State of Michigan asked us to do." We say that that is not a proper construction of the act of Congress. We propose to show that the people never got a dollar's worth of benefit from the lands given for this purpose.

Mr. REDINGTON. We intend to prove, and we offer to prove, that the United States never have received the benefit of one dollar from the munificent grant of 400,000 acres.

Mr. PAYSON. But you do not propose to offer any proof to the committee as to the fact of the construction or the method in which it was done at the time that the work was done and accepted by the State of Michigan.

Mr. MONTGOMERY. Except as to results.

Mr. PAYSON. I am not asking for inferences from which we may draw deductions. Do you propose to prove before this committee by the testimony of any witness any fact that occurred prior to the time of the acceptance of this canal by the State of Michigan?

Mr. MONTGOMERY. No, sir.

Mr. PAYSON. Do you propose to offer any testimony contradicting the testimony already in as to the condition of water in the canal, or as to the condition of the work at the time it was accepted by the State of Michigan?

Mr. MONTGOMERY. We do propose to offer a good deal.

Mr. PAYSON. As to facts that occurred prior to the acceptance of the canal by the State of Michigan?

Mr. MONTGOMERY. No, I do not mean that.

Mr. PAYSON. Then there is no necessity for any further argument of the question until the matter is referred to the full committee. But I want it understood, so that there shall be no misunderstanding hereafter. Have you any witnesses here in attendance by whom you propose to contradict the testimony, offered on the other side of the case, as to facts which existed prior to the acceptance of the canal by the State of Michigan?

Mr. MONTGOMERY. I will say frankly that we have not. We have no witnesses to offer who can testify to any distinct affirmative facts that existed in the fall of 1873 or the spring of 1874. Our proof will be confined substantially to the statement that the canal never answered the purposes of a canal. I think we shall content ourselves substantially with what Mr. Foster and Mr. Williams have told us about the methods of construction, the sheet-piling, &c., and shall undertake to prove by subsequent experience that the work never served the purposes of a canal, that there has never been a canal there or a harbor

or a breakwater. I should be very glad if the subcommittee would decide to refer the matter back to the whole committee.

Mr. McCARTER. There is no difference between either side and the committee as to the scope of the committee's inquiry; but the question is whether the proof offered tends to elucidate that question, or whether it is so remote that the committee is bound to rule it out. It is a question of construction of evidence, not a question as to whether the committee has too narrow a view of the scope of its inquiry.

After some further discussion, and after a consultation with the other members of the committee, Mr. Payson said that, in order that the full committee might be advised as to the general scope of the testimony on this line from other witnesses, and assuming that it would be of the same general character as that of Mr. Williams, he proposed to allow the examination of Mr. Williams on that question, and then let the full committee determine whether any more of such testimony should be heard.

Mr. McCarter asked that the record should show that he objected.

Mr. PAYSON. Certainly. [To Mr. Montgomery]: You may proceed with the examination of Mr. Williams subject to objection.

The examination was then resumed as follows:

By Mr. MONTGOMERY:

Q. Tell us how long you have known about the Sault Ste. Marie Canal?—A. The first time I saw the Sault Ste. Marie Canal was in 1858.

Q. It has been rebuilt, has it not been?—A. Yes; it was enlarged and new locks built.

Q. How long ago?—A. I think two years ago. The enlargement was open two years ago last August.

Q. Up to the time of its enlargement what depth of water was there in the Sault Ste. Marie Canal?—A. I think it safe to state that the average depth is not over 12 feet over the lower miter sill.

Q. Now, to go back to our canal. As you dredged inshore what was the character of the ground? Was it sand or of clay, or of what was it composed inside the canal about the shore-line?—A. It was a hard-pan bottom, hard sand.

Q. How hard was it?—A. It was very hard.

Q. Do you think that a pine plank would penetrate it by being driven with a pile-driver?—A. No, sir.

Q. How was this sheet-piling secured at the top?—A. There was a cap on it.

Mr. PAYSON. What point of the canal are you describing?

The WITNESS. The upper end of the canal near the shore.

Mr. PAYSON. On either side of which are these high sand banks that you speak of.

The WITNESS. Yes, sir.

By Mr. MONTGOMERY:

Q. Explain how the sheet-piling was secured at the top.—A. I never took notice enough to try to explain it. I simply saw that there was sheet-piling in there, and a cap put upon it. I was not interested in it, and paid no attention to it.

Q. How long, in your judgment, ought the sheet-piling to have been, provided the purpose was to secure 13 feet of water in the canal?—A. I think that I should consider that 16 feet would be short enough.

Q. And how far in the ground should it be driven in order to be substantial?—A. It should be driven at least 2 feet below the canal bottom.

Q. I understood you to state that you did not think that sheet-piling in any event would answer the purpose?—A. No; because it could not be driven in this hard bottom at the upper end of the canal.

Q. In the Sault Ste. Marie Canal were the old walls vertical, or did they slope?—A. They sloped.

Q. How about the walls in the new canal?—A. They are all vertical.

Q. Tell the committee what your experience has been and what your knowledge is on the subject of vessels bound north and west coming through the Sault Ste. Marie Canal, and as to whether they had to be unloaded before traversing Portage Lake Canal.—A. Of my own knowledge I cannot answer that question.

Q. Tell us what your information as a citizen there is in regard to that fact.

(The question was objected to by Mr. McCarter, and it was admitted subject to objection.)

A. I have been told by captains of vessels at different times that they have often to trim in order to get through the canal.

Q. What is trimming?—A. Discharging cargo and trimming cargo so as to get a smaller draught of water.

Q. Is that habitual or is it only in isolated cases?—A. It is not so all the time.

Q. How about the deep-draught vessels?—A. The deeper-draught vessels do not go by that way at all.

Q. Are the vessels that draw 13 feet, or thereabouts, loaded heavily, able to get through the Portage Lake Canal without discharging at Houghton?—A. I have never known an instance where they could.

Q. Have you known a great many instances of their unloading at Houghton before they went through, or else of their going back around Keweenaw Point?—A. I know a great many instances of their going around Keweenaw Point early in the season.

Q. Is there any dispute that that is what they have to do habitually? Does anybody dispute that fact? Do you know, on the part of the canal company up there, its officers or superintendent, or on the part of the people along the line of the canal, that that fact is disputed—the fact that ships coming from Buffalo, Cleveland, and Detroit loaded and trimmed their cargoes so as to lighten at Houghton in order to get through the Portage Lake Canal? Is that the practice habitually?—A. It is not the exclusive practice.

Q. Is that the habitual practice?—A. Not through the whole season. After the bar is dredged out they do not do it so much. Early in the season they do it. And early in the season they go around the point.

Mr. PAYSON. Until after the dredging is done?

The WITNESS. Yes.

By Mr. MONTGOMERY:

Q. After the dredging, do the heavy-draught ships go around the point?—A. Nearly all the heavy-draught vessels go around the point.

Q. I mean those that come through the Sault Ste. Marie Canal?—A. There is a through line of boats and there are shore lines.

Q. All the boats that come from the east are compelled to come through the Sault Ste. Marie Canal, are they not?—A. Yes.

Q. Was that so prior to the enlargement of the Sault Ste. Marie Canal?—A. To a certain extent.

Mr. PAYSON. There are no other means of ingress or of egress from Lake Superior except the Sault Ste. Marie Canal, are there?

The WITNESS. No, sir.

Mr. PAYSON. Every boat from Buffalo to Duluth, whether a skiff or a man-of-war, has to go through the Sault Ste. Marie Canal, has it not?—A. Yes.

Q. Assuming (and I do it for the purpose of a hypothetical question) that the intention was to secure a breakwater, and a harbor, and a ship-canal at the Lake Superior mouth of Portage Lake Canal; has that been accomplished?

(Question objected to by Mr. McCarter, and admitted.)

A. It has not been accomplished in the ideas of the sailing men.

Q. Was that ever so since the canal was claimed to have been completed in 1873; have they ever had a harbor, breakwater, and ship-canal there which answered the purpose of the navigation to the lakes?—A. Not to my knowledge.

Q. Can you tell us, as an experienced constructor of this sort of work, what the trouble is with heavy draught boats getting into the mouth of the canal and getting out; what is the trouble, and what has it always been?—A. So far as my knowledge goes the trouble is a bar near the outer end of the piers.

Q. How does that operate in preventing boats getting out?—A. It shoals the water.

Mr. Van Eaton said he would like the witness to explain what he meant by heavy-draught boats.

Q. Tell us what you mean by heavy-draught boats in lake navigation.—A. A heavy-draught boat nowadays is considered a boat that draws 14½ feet of water.

Q. How was it two or three years ago?—A. A boat drawing 12 feet was considered a heavy-draught boat prior to the enlargement of the Sault Ste. Marie Canal.

Q. That canal had 13 feet of water; what draught boat would that ordinarily accommodate?—A. That would allow a boat of 12½ feet draught.

Q. That was larger than the heavy-draught boats that were engaged in the trade on the lakes up to a year or two ago?—A. That is the average.

Q. Do you speak of the average boats?—A. No; I speak of the average season.

Q. What lines were there that had the heaviest draught vessels engaged in this business up to two or three years ago?—A. The Buffalo line of boats, and Ward's line, and the Chicago line.

Q. Are you able to tell the committee what is the uniform reputation, and what has it been during the past ten years among the vessel masters and vessel owners as to this canal for capacity and sufficiency as a harbor, breakwater, and ship-canal?

(Question objected to, and admitted.)

A. To my knowledge, it is looked upon as not filling the bill.

Q. Is it looked upon as a dangerous place for navigators?—A. Yes; in rough weather.

Q. What time does navigation usually open up there?—A. About the 5th of May, on the average.

Q. After that time until after the dredging is it navigable at all?—A. Not to my knowledge. It has not been navigable until after the dredging is done.

Q. Then, for about how long in the spring after navigation opens is the canal impassable—I mean uniformly since you have known it?—A. Since I have known it I should judge it to be impassable until about the middle of June, or somewhere about that time.

Q. Something was said when you were examined a short time ago on

the subject of dredging, about your not having any personal knowledge of the depth that you cut, and you told us afterwards that you did the work by the cubic yard.—A. Yes.

Q. Did you settle with the company in that way—by the cubic yard?—A. Yes; My work is all measured in scows. We pay no attention to the soundings.

Q. You have got a strip of water 200 feet long and 75 feet wide to cut, and when you got through your cut, you have taken out so many cubic yards. Can you not tell how deep you would have cut by the cubic yards you took out?—A. Yes; if we were to go to work to estimate it; but I have never bothered my head about that.

Q. You say that in the business of the computation you were compelled to rely upon the reports of your subordinates mainly?—A. Yes; and the canal company has its representative there, having full charge of everything.

Q. Did you talk with Mr. Pryor in respect to how far down you were to go?—A. Yes; it was the understanding that we were to go from such a point to such a point.

Q. It was only in that general way that you were advised?—A. That is the general way of doing that kind of business in that country.

Mr. Montgomery said that for the present he was through with this witness. He wished the sub-committee, however, to understand that he proposed to supplement this proof with further specific instances of vessels which had attempted to go through the canal, season after season, and been unable to get through.

Mr. PAYSON. All subsequent to 1874.

Mr. MONTGOMERY. All subsequent to 1874. I do not think we shall be able to show any specific instances earlier than 1877. We should be glad also to produce the masters of several vessels to show the general features of Mr. Williams' testimony, and also specific instances of inability to get their vessels through.

Cross-examination by Mr. McCARTER:

Q. What did you mean when you answered the question which contained the expression as to the canal being impassable up to a certain point of the season? What did you mean by its being impassable?—A. I mean that a bar had formed at the mouth so that deep-draught vessels could not go in or out.

Q. The mouth is at the entrance of the pier?—A. Yes.

Q. And that is where you say the principal difficulty was as to the depth of water in the canal?—A. That was the principal point.

Q. You never sounded it, did you?—A. No, sir.

Q. Nor your men, so far as you know?—A. Not so far as I know. I never gave any orders to that effect.

Q. They were not obliged to sound in order to do the work?—A. No, sir.

Q. Do you know what time ice gets out of that canal in the spring?—A. I never was there to see; I do not know positively.

Q. You spoke about variations of water in Lake Superior; what did you mean by that?—A. There is a variation in the level of Lake Superior for a series of years.

Q. Between what ranges?—A. The extreme variation, as nearly as I recollect, is about 2½ feet.

Q. Between what points of time?—A. I cannot say.

Q. Can you give a general idea whether it is in the same season?—A. One season the water will be high, and the next season, after it gets

to the extreme height, it goes down generally from 6 to 10 inches. As a rule, it rises for a series of years, and then it will commence and work back. I knew it in one instance to go from the ordinary stage to a rise of 18 inches.

Q. In one season?—A. Yes.

Q. How long did that rise last? When did the water recede again; was it the same season?—A. No; the water always goes down, of course, in the fall. It commences to recede in September, and it works back again to the average height early in June. June is looked upon as about the time when the water gets to its average height for the season.

Q. When you tell us that the report among seamen is that the canal does not fill the bill, what do you mean by its not filling the bill?—A. So as to be navigable and accessible in all weathers to vessels with the average draught of water.

Q. What would you call the average draught of water prior to the deepening of the Sault Ste. Marie Canal in 1882?—A. The average draught would be nearly 11 feet.

Q. By filling the bill, you mean that the canal was not generally accessible to, and navigable by, vessels of that draught?—A. No, sir; in all weathers.

Q. What do you mean by "all weathers"?—A. I mean that vessels could not go in at any time when they chose to, if the sea was the least bit rough. They have to go round Keweenaw Point.

Q. "If it is the least bit rough"?—A. I mean quite a lump of sea. The "least bit rough" means a sea.

Q. Was that your personal observation?—A. That is what captains told me; that it was considered unsafe, and they have not attempted to go through the canal.

Mr. PAYSON. On account of the lack of depth of water?

The WITNESS. Lack of depth of water. They did not consider it safe to attempt to go through the canal.

By Mr. MCCARTER:

Q. You say that according to the ideas of sailing men there is no breakwater, harbor, or ship canal there, and never was?—A. I said practically.

Q. There is a canal there, is there not?—A. Yes.

Q. If you should be told that that canal did actually pass two or three hundred vessels a season, some of them drawing 12½ feet and 13 feet of water, and that they went through that canal without difficulty, would it be still your opinion that there was no ship canal there?—A. To my knowledge, no vessels have passed through drawing such a depth of water.

Q. Suppose it was made to appear to your satisfaction that vessels did pass through with such a draught of water?—A. It could not be made to appear to my satisfaction.

Q. The Sault Ste. Marie Canal is at the eastern end of Lake Superior is it not?—A. Yes.

Q. Is that it which appears on the map just over Lake Huron?—A. Yes.

Q. A vessel loaded for Duluth, and having no freight or cargo for either Houghton or Hancock, or any point on Portage Lake, would she go into this canal at all?—A. Not when weather was good. But if a vessel encountered a storm in the vicinity of Marquette it is very liable

to drop into Keweenaw Bay, and would be very glad, if it could, to navigate that canal, even by paying tolls, and get through with safety.

Q. But ordinarily, in ordinary weather, such a vessel would not pass through the canal at all?—A. No, sir; it would take nearly a straight course.

Q. What vessels can you name which you have ever heard could not get through this canal on account of insufficiency of water?—A. I have heard the captains of the Badger State, and of the Empire State, and I think I might safely say nearly the whole Buffalo line of boats, and also of the Chicago line, say it.

Q. Give the names of those boats.—A. I am not positive about it; but it is my belief that I have heard the captains say so. I have talked with them, and they have talked with me. The captains of the Empire State and of the Badger State told me of their fear to enter the canal.

Q. Did they say that they could not get through?—A. They said that at certain times they would not attempt it.

Q. What other captains have you heard say so, besides the captains of the Empire State and of the Badger State?—A. As I said before, I might name you the whole list of captains.

Q. Name all the captains from whom you heard that they could not get through this canal, or that they were afraid to go through it. I want to get at something like certainty about this, if possible.—A. I cannot recall the times on which I have conversed with them in regard to this matter. It is a general knowledge that I have from them, and I do not confine myself to any dates at all, not even in my own business.

Q. Now I read to you a list of vessels navigating Lake Superior; and, after I have read it to you, I wish you to state whether you can name any other vessels that are engaged in navigating these waters: Manistee, Duluth, Hurd, Arctic, Peerless, Pacific, Arizona, Winslow, India, Fremont, Japan, China, Empire State, Atlantic, Northerner, City of Cleveland, Hodge, Nyack, St. Louis, Roanoke, Badger State, Osceola, St. Paul, Toledo, H. B. Tuttle. Can you think of any other vessels engaged in navigating those waters than those here named?—A. There are a great number of vessels running up that way. I could not begin to name them.

Q. Here is another list: Schooner Charlie, tug Silver Spray, propellers Lotta Bernard, Norman, Port Huron, and Phil. Sheridan; steamers K. White, Metropolis, Keweenaw; schooner M. A. Herbert; propellers Fremont and Pacific; schooner Maple Leaf; propellers Cuyahoga and E. B. Ward; steamer Ivanhoe; propeller St. Paul; schooners Brightie and L. Pratt; propellers Rocket, Smith, Jarvis Lord, Quebec, and St. Clair. Do you know of any other vessels in addition to these, and the others previously named by me, that navigate those waters?—A. Yes. There is a large number of barges. I cannot recall their names. They are almost numberless, I might say.

Q. What do you mean by their being numberless?—A. I mean that there are a great many of them. Your list I think does not show over one-fourth of the names of the vessels navigating Lake Superior.

Q. Above Marquette?—A. Yes; of course they go above Marquette.

Q. Do you know the names of any other vessels?—A. I do not recall their names.

Q. How is it now with the construction of the Sault Ste. Marie canal? You say that its sides are vertical. Of what material is it constructed?—A. Above the lock it is timber work, and also below the lock. The approaches at both ends are timber-work cribs.

Q. How much of the canal is occupied with the lock?—A. The new lock, I believe, is 470 odd feet. Then there are guard gates. I should say that 600 feet would cover the masonry.

Q. How were the sides of the old canal protected?—A. They had a sloping wall going up right near the surface of the bank.

Q. Was it a natural bank, or was it protected by the piling?—A. There was no piling. It is all rock there.

Q. Now, you say that inside of the shore this Portage Lake Canal has a hardpan bottom?—A. Yes.

Q. How is it further up between the piers?—A. As I remember that bottom, it was all very hard until you got out half way, I should judge, between the shore line and the present end of the piers. Then it begins to get softer.

Q. How wide are these vessels that I have named that ordinarily navigate the canal; what is their width across the beam?—A. I should say from 25 to 30 feet.

Q. They are mostly propellers, are they not?—A. Mostly.

Q. Do you know how many side-wheel steamers there are navigating that canal, or that would navigate it if they could?—A. At the present time I do not recall any side-wheel steamers that run on the lake.

Q. You have eight dredges, you say?—A. Yes.

Q. And had when this work was being done by you for the canal company?—A. No; I did not state that; I stated that I had eight dredges at the present time, and have had for the last two years.

Q. How many had you in 1878?—A. We had six.

Q. Where did they work?—A. All over the lake, you might say.

Q. Name the points where you did work in those years.—A. We did work at Duluth. I am not positive of all the points, whether we were at Superior or not. We were at the head of the lake.

Q. What part did you take personally in the operation of the dredges?—A. I looked after the work at the lower end of the lake.

Q. What do you call the lower end of the lake?—A. From the Apostles Islands to the Sault Ste. Marie River.

Q. How many jobs would you have at once?—A. Two or three.

Q. What personal inspection or supervision did you give to your dredges?—A. Nothing more than any one would who had to attend to his own affairs.

Q. I want to know what you had personally to do with them.—A. I had the same to do with them as the owner of a vessel has to do with his vessels.

Q. You certainly could not be with each dredge all the time?—A. No; it is very seldom that I am with them.

Q. Personally, you are seldom at the place where your dredges are at work?—A. Yes; lately.

Q. How was it in 1878 and 1879?—A. Probably I was there once a week; sometimes not as often as that; and I would stay a few hours.

Q. You said in your testimony that whatever was done occurred outside of your personal observation?—A. Yes.

Q. Then in 1879 you were personally in charge of these dredges from the Apostles Islands to the Sault Ste. Marie River; you were not personally in charge at Portage Lake, were you?—A. Personally, I looked after that part of the lake; my partner lives at Duluth and attends to the upper portion of the lake.

Q. What is your partner's name?—A. J. H. Upham.

Q. Then, when you tell us how deep the dredging was done at this place, and how much in longitudinal area was taken out, you do not

speak from your personal observation?—A. I spoke of it from my recollection of conversations with Mr. Pryor in regard to the amount of work which he wanted done, and I set my machines at work to do it.

Q. When you say that you took two or three cuts, do you know what the depth of the water was outside of the area occupied by those cuts?—A. No, sir.

Q. And whether there was any need of dredging beyond that?—A. No, sir.

By Mr. PAYSON:

Q. You got so many cents for so many yards of stuff that you took out?—A. Yes; and it is measured in the scows; of course we never do any soundings, or anything of the kind.

By Mr. MCCARTER:

Q. You say there was no harbor there; what is a harbor?—A. A safe protection for a vessel getting in from a storm, and which it can enter or leave in any kind of weather, when it is safe for a vessel to go out.

Q. Have you ever been in New York?—A. Yes.

Q. Is it your idea that there is a harbor there?—A. I never looked around New York enough to investigate that matter.

Q. You have a general idea that there is a harbor in New York?—A. I supposed so.

Q. Do you not know that at times it is unsafe for vessels to leave the harbor of New York?—A. I suppose so.

Q. Then it is not essential, in your idea of a harbor, that it should be a place where vessels can always go in and out in all weathers?—A. That should be the case.

Q. Then your idea of a harbor is that it must be such a place or such a structure that it is always safe in any weather for any vessel to go in or out that is capable of navigating?—A. Yes; it should be accessible in all weathers.

Q. Have you been a navigator?—A. No, sir.

Q. This bowlder which you saw outside of the bar, when was that?—A. It was one of the seasons that I was there; I cannot name the year.

Q. And all that you know about it is that somebody told you that it was got out by the dredge?—A. I saw it lying on the end of the dump scow.

Q. And all you know about how it got there is from what somebody told you?—A. Certainly. I did not see them lift it in.

Q. Did they tell you where it came from?—A. They told me it came out of the cut.

Q. Where?—A. Where the dredge was at work at the time that I saw it.

Q. Where was she at work?—A. About one-third or one-half the distance between the shore line and the outer end of the piers.

Q. What is the difficulty as to the entrance of this harbor between these piers? What renders it inaccessible?—A. The bar; shoal water.

Q. Where is the bar?—A. The bar, when I did the work there, was a little outside of the end of the piers—the shoalest part of it; and it ran inside of the piers.

Q. How much water was there on the bar?—A. I did not sound it.

Q. And you do not know?—A. Not of my own knowledge.

Q. Is that the reason why you think that this is not a harbor?—A. My reason for not thinking it a harbor is from general observation and from what I know of the opinions of vessel captains as to the place.

Q. What is their opinion as to the place, with reference to the precise question of its being a harbor? What reason do they give for its not being accessible?—A. Shoal water.

Q. Did they give any specification as to the depth of water?—A. Not to me.

Q. What was the last work that you did for the canal company?—A. I am not positive as to the year.

Q. Tell us as nearly as you can.—A. I should think it was in 1379 and 1880. I think I worked there for two years in succession. Whether I did any more than that or not, I do not recollect.

Q. You have not worked there since 1880?—A. I do not know; I would not swear to that.

Q. When did you commence working there?—A. I cannot give you the exact year. As I said before, to the best of my recollection it was in 1879.

Q. That was the first work you did for the canal company?—A. No; the first work I did for the company was in 1870.

Q. I mean after 1873—after the canal was finished?—A. 1879 was the first time after that that I did work for the company, so far as I can recollect.

Q. Did you dredge there in 1880?—A. My opinion is that I did.

Q. And in 1881? A. I do not recollect.

Q. Why did you not do work after that? A. I made no arrangements for any work. I had no contract for doing any.

Q. Why did you not have a contract?—A. I cannot answer that question.

Q. Why?—A. Because I did not have a contract.

Q. Why did you not have a contract?—A. I have no recollection.

Q. Did you apply for one?—A. I cannot state.

Q. Did you not have some difficulty with some person in the management of the canal because you did not get work?—A. No, I think not. I do not recall anything of the kind.

Q. Was there no bad feeling or ill-will, or anything of that kind, because you did not get work?—A. Not on my part.

Q. Was there on the part of the canal company?—A. I do not know.

Q. You never knew any reason why you did not continue to have contracts as before?—A. Not to my knowledge that I recollect.

Q. Then, in regard to the depth of water which existed at the end of the piers, your information was from what you derived from those who did your work?—A. Yes, sir.

Q. And you do not know whether they sounded or not?—A. No, sir.

Q. In regard to the use of the canal, and the difficulty of entering between the piers, and the difficulty of boats passing within the channel of the canal; all you know, I understand, is from information derived from other parties?—A. Yes.

Q. Not from personal observation of your own?—A. No, sir.

Q. Do you speak at all from any personal knowledge or observation, or is your knowledge derived purely from hearsay?—A. I spoke from personal knowledge and observation, and from what I have heard in talking with sailing men.

Q. What personal observation and knowledge do you refer to?—A. My general knowledge. Being a contractor, and being in the business for twenty odd years, I must have a general knowledge of such matters.

Q. Would that enable you to say what the depth of water was in that canal—your general knowledge as a contractor?—A. I do not know that I have said anything of my own personal knowledge in regard to the depth of water in the canal.

Q. Would it enable you to say anything in regard to the accessibility and safety of the canal?—A. I should judge that it would. My general knowledge is that the canal is not safe and accessible at all times.

Q. Did you ever see a vessel try to enter there that failed?—A. No, sir.

Q. Did you ever see a vessel go past the entrance that would have gone in but for some difficulty?—A. I cannot recall any now; I may have done so; I am very uncertain about that.

Q. Did you ever see two vessels try to pass each other on the canal at any other place except Lily Pond?—A. I do not recall that I ever did.

Q. What have you ever seen, yourself, to justify the opinion which you have expressed in regard to the character of this canal?—A. My general knowledge of the canal.

Q. Of the nature of the work?—A. Yes; of the nature of the work.

Q. How do you estimate that the method of construction which you recommend to be adopted in order to make this a proper canal would cost $250,000? You say it is a rough estimate; what data have you for it?—A. I have no data; it is mere guess-work; I never made an estimate of it; I never took the trouble to figure it up.

Q. You would not undertake a contract on such an estimate as that?—A. Oh, no.

By Mr. MONTGOMERY:

Q. You have told counsel on the other side that the reason why you thought that this was not a harbor was because it is not accessible to vessels at all times for protection. In your opinion, if the piers had been extended into 25 feet of water, and had been composed of cribbing, as you have described, would there have been a harbor there which would have been accessible to vessels at all times?—A. Yes; except in a terrible gale; I meant in any ordinary weather; I do not think there would be any trouble in ordinary weather; for my part I would not be afraid to undertake to take a vessel in there under such circumstances.

Mr. PAYSON. With 25 feet of water?

The WITNESS. With 25 feet of water at the inner end.

By Mr. MONTGOMERY:

Q. In the absence of a breakwater you think there should be a width of 250 feet at the mouth of the canal?—A. Yes; there should be plenty of lee way.

Q. I understood you to say that the work should be cribbed—how much from the shore?—A. My idea has been to extend the cribs in shore as far as the high banks on either side of the canal.

Mr. REDINGTON. So that the sand would not drift through the sheet piling?—A. Yes; and so that the sand could not get through below the piles.

By Mr. MONTGOMERY:

Q. Now, about this list of vessels that was read to you. The Manistee, for instance, was lost a year ago, was she not?—A. Yes, sir; last fall.

Q. She was not lost in the canal, was she?—A. I do not think any one knows where she was lost; nobody has ever been found that was on board the vessel.

Q. Do know of her having had any trouble about getting through the canal?—A. I do not.

Q. Do you know anything about the "Badger State" having had trouble there?—A. Yes.

Q. Do you know about the "Peerless" having struck bottom there? —A. Not from personal knowledge; I have heard of it.

Q. Do you know of the "Japan" having struck bottom?—A. I have heard reports of it.

Q. Have you heard of the "Empire State" having run aground?—A. Yes, from report.

Q, Have you heard about the "Nyack" having to back out and go around by the point?—A. I have heard of that case.

Q. Have you ever heard of other deep-draught vessels that did not have to do it?—A. There are seasons there when they would go through, drawing probably 12 feet of water.

Q. You told us, in your direct examination, that there was from ten to eleven feet of water at the end of the pier, when you commenced dredging, and you told my friend on the other side that you did not know how much water there was?—A. I stated that I knew nothing of it by personal knowledge; I did not do any soundings whatever.

Q. You knew it simply from information, and you proceeded in your work of dredging on that theory?—A. Yes; that was the understanding.

Q. Then I understand you that the widening there was in lieu of an outside break water?

Mr. McCarter. The witness has not said a word about an outside breakwater.

By Mr. Redington:

Q. Mr. Pryor told you to go to certain points and dredge fifteen feet? —A. That was the understanding. There was to be dredging between certain points.

Q. And he pointed them out?—A. Yes.

Q. And you went with your dredges and dredged between these points, as you have already testified?—A. Yes.

Q. And those points were as stated in your testimony?—A. Yes; to the best of my knowledge.

By Mr. McCarter:

Q. Did you go with Mr. Pryor to those points and see that the depth was as stated?—A. I saw the machines on the work.

Q. Did you go yourself with Mr. Pryor to the spot where the dredging was taking place?—A. I do not know whether I did or not.

Q. You saw your machines there?—A. Yes.

Q. Do you know anything more than that, except that you got your pay for the work you did?

The Witness. About what?

Mr. McCarter. About how much dredging was done and the depth of water?

A. I know all these things through my office. I do not carry them in my head.

Q. How do you mean about your knowing them through your office?— A. Just as any man understands his business who keeps books. I understand it through the books in the office.

By Mr. Payson:

Q. I understand that your theory in regard to having cribs connecting the interior ends of the piers and running inward is to prevent the sand from getting into the canal from the shore on either side?—A. Yes, sir.

Q. And you stated that you thought the sand might work below the cribs that were already there?—A. Yes; it is safer to have those cribs

put below the canal bottom. Then the sand could never get in, because the bottom is so very hard. In my opinion nothing could get under the cribs. It is a hardpan bottom through most of the way at the upper end.

Q. Then, summarizing your idea of the difficulties as to the space inclosed between the piers, and its accessibility, the trouble is based entirely upon the fact of a lack of early energetic dredging. If there was dredging commenced early and prosecuted energetically that would obviate the difficulties as stated?—A. Yes, as soon as the bar is removed.

Q. And if the sand came in next year, it should be dredged again?—A. Yes.

Q. Then the difficulty has been a lack of energetic dredging early in the spring?—A. I have made no statement of that kind.

Q. But if I understand the substance of your testimony about the difficulty, that is the difficulty?—A. There is no other difficulty until there comes a storm. To my knowledge the canal has never been dredged out its full width between the outside piers.

Q. Assuming the piers to be 200 feet apart, if that space was dredged out completely, so that there would be a depth of from 20 to 25 feet of water between the two piers, then the work would be proper enough so far as accessibility is concerned?—A. Yes.

By Mr. MONTGOMERY:

Q. Until it filled up again?—A. Yes.

Q. How long would it take to fill up until the depth would be less than 25 feet?—A. I cannot say. I never have taken any soundings nor made any estimates, but my idea of the way to construct that thing, and to make it permanent, is as I have stated.

By Mr. PAYSON:

Q. That is the only change in the character of the work which you would suggest—to have it so constructed as to keep the sand from coming in?—A. My idea is that there would be no trouble whatever in having the canal accessible at any time except when there is a terrific gale of wind, which does not occur there often.

By Mr. MONTGOMERY:

Q. And it would not then require dredging?—A. I do not think it would require dredging once in five years.

Mr. Montgomery said that he should be glad to examine Captain Blanchard, whose testimony would be, perhaps, more indicative of the line of proof proposed.

Mr. Payson said that he was very clear in his own mind that the testimony was not within the scope of the authority which the subcommittee had, and he was very clear that the other members of the committee would be of the same opinion, that the testimony was irrelevant and beyond its power to hear.

Mr. Van Eaton added that if it were irrelevant, then the subcommittee had been occupying three hours in examining one witness this morning.

Mr. Payson remarked that if that were the opinion of the subcommittee, it would be useless to spend more time in the matter.

Mr. Montgomery hoped that the committee would not apprehend that they were doing him and his colleague a personal favor in admitting the testimony.

Mr. PAYSON. Not at all.

Mr. MONTGOMERY. It is a matter in which we have no concern. If

the committee think that it is conferring a favor upon us in hearing this testimony, I do not think we should go on any further.

Mr. PAYSON. Has there been any indication of anything to that effect?

Mr. MONTGOMERY. Mr. Eaton said that the committee has lost three hours this morning in examining one witness.

Mr. EATON. I did not say that the committee had lost three hours, but that it had occupied three hours.

Mr. MONTGOMERY. In what you believe to be wholly irrelevant testimony.

Mr. PAYSON. Is the testimony of Captain Blanchard to be in the same line as that of Mr. Williams?

Mr. MONTGOMERY. We propose to show specific instances by Captain Blanchard.

Mr. PAYSON. Commencing in 1877, and going on later?

Mr. MONTGOMERY. Yes.

Mr. PAYSON. I do not think that competent testimony at all.

Mr. MONTGOMERY. Then I think we had better stop where we are, and take the judgment of the full committee in the matter. You can see that we cannot very well go back and prove just exactly what was done at the time that the work was being prosecuted. We can simply prove the results.

Mr. MCCARTER. I think it will throw light upon the subject if we are permitted right on this point to put in some testimony relating to the action of Congress on the question of this canal. I want to put in a report of the Senate committee and the report of the House committee, to which committees respectively the bill was referred which was passed in 1876, giving the second grant of the 200,000 acres.

Mr. PAYSON. The committee will take judicial notice of those reports (using a legal expression) in connection with the investigation, if you call attention to the numbers of the documents.

Mr. MCCARTER. Without formally offering them in evidence, I want to use in the discussion of the question the fact that the reports in both houses of Congress at the time of the passage of the bill of 1866, making the second grant of land, had reference to and spoke of those very plans and specifications—my object being to show that the plans and specifications had been before these committees, and that the committees recommended the second grant of land with a knowledge of the method of construction adopted by the State of Michigan.

Mr. PAYSON. That will be a matter for the full committee to determine.

Mr. REDINGTON. Let me understand whether the proposition is to introduce reports of committees of Congress as evidence tending to establish any fact.

Mr. MCCARTER. Yes; as tending to establish the fact that the committees had knowledge, at the time of the passage of the second law, what the plans and specifications were on which the canal was to be constructed.

Mr. REDINGTON. Is it your proposition that you may introduce those reports in order to establish a question of fact?

Mr. MCCARTER. Yes; a question of fact.

Mr. REDINGTON. Then we will have one or two to introduce.

Mr. MONTGOMERY. I suggest that it might be well for the committee to consider the resolution of Mr. Maybury as to its scope, and also to consider the report of the majority of the committee on the subject of the Ontonagon grant.

Adjourned until to-morrow.

WASHINGTON, D. C., *April* 2, 1884.

CHARLES D. BLANCHARD sworn and examined:

By Mr. MONTGOMERY:

Question. Where do you reside?—Answer. Marquette, Mich.

Q. How long have you lived there?—A. Since 1874.

Q. Did you once live in Boston, Mass.?—A. Yes.

Q. Did you sail from there when a boy?—A. Yes.

Q. When did you commence a seafaring life?—A. In 1851 or 1852.

Q. Have you had experience as a sailor on the great lakes about Michigan and Wisconsin?—A. Yes.

Q. When did you commence your experience as a sailor upon those lakes?—A. In 1855.

Q. How long did you continue to sail on those lakes?—A. From 1855 to 1878, with the exception of one season.

Q. What position did you occupy when you commenced to sail on those lakes?—A. That of a sailor.

Q. Were you afterwards mate on a sailing vessel?—A. Yes.

Q. Were you afterwards mate upon a steamer?—A. Yes.

Q. Were you master of a steamer?—A. Yes.

Q. And all this was on the great lakes?—A. Yes.

Q. How long were you a master of a steamer on the great lakes?—A. I am not positive when I first received my license, and I cannot swear positively as to that.

Q. From 1870 to 1876, inclusive, what were you doing?—A. I was sailing a steamboat.

Q. As master?—A. Yes.

Q. What boat?—A. Several different ones.

Q. Were you master of a vessel there during all this time—from 1870 to 1876?—A. Yes.

Q. What have you been doing since 1876 or 1877?—A. I have been in the Government employment.

Q. In what capacity?—A. As local inspector of steam vessels for the district of Superior.

Q. With your home at Marquette?—A. Yes.

Q. Your headquarters are there?—A. Yes.

Q. What are your duties as such inspector?—A. To inspect the hulls and life-saving appliances of all steamers within that district, in conjunction with my associate in office, who is inspector of boilers.

Q. What is the name of your associate in office?—A. C. M. Goodwin.

Q. Does the performance of your duties require you to be familiar with the draught and construction of the vessels with which you come in contact?—A. Yes.

Q. Have you ever seen any breakwater, so-called, in your experience as a navigator?—A. Yes.

Q. Mention some of those you have seen?—A. We have one at Marquette, one at Duluth, one at Chicago, one at Cleveland, and one at Buffalo.

Q. Have you seen them all?—A. Yes.

Q. Do you know anything about the canal in controversy—the Portage Lake Canal?—A. Yes.

Q. You know where it is located?—A. Yes.

Q. Do you know about the Lake Superior mouth of it?—A. Yes.

Q. Is there a breakwater there?—A. Not within the proper meaning of the word as I would term a breakwater.

Q. Is there a harbor there properly so-called?—A. There is for small class boats, practically, but not for large vessels.

Q. What would have been a proper breakwater to construct there in order to make a harbor for large vessels? If you were called upon in your capacity as a Government officer to construct a breakwater at that place which would make a good, or reasonably good, harbor where vessels of large draught, or reasonably heavy draught, could be safe, what kind of breakwater would you construct as to dimensions and shape and location?—A. I am not familiar with the entire construction of breakwaters, but my idea would be to construct something in a crescent shape, or nearly so, off the entrance to these piers, in order to break the seas, so as to have comparatively smooth water all the time at the entrance to these piers.

Q. Would you build it of a crescent shape off the piers?—A. Yes.

Q. Where would you have the ends of crescent terminate?—A. Off the outer ends of the piers.

Q. Leaving room for vessels to go between the end of the crescent and the end of the pier?—A. Yes.

Q. As a practical navigator, do you think there would be any difficulty in vessels making a harbor with such a breakwater?—A. I think not, comparatively speaking. There might be a difficulty in very severe storms.

Q. Since you have resided in that country, and been a navigator of the lakes yourself, you must be somewhat familiar with the course and management of vessels and with navigation there?—A. Yes; somewhat.

Q. Is that also true since you have become inspector of hulls?—A. Yes.

Q. Tell the committee whether well-loaded or full-loaded heavy draught steamers go through, or pretend to go through or use this canal?—A. Generally speaking, they do not.

Q. For what reason?—A. For lack of draught of water, and insufficient water.

Q. How long has that been true; that is to say, how long has it been true that heavy-draught steamers have not used this canal habitually and usually?—A. I cannot testify as to whether a deep-draught vessel ever passed through there.

Q. I do not mean that. Since the construction of the canal have heavy-draught vessels used the canal habitually?—A. As I understand it, they habitually do not.

Q. I suppose that your duties frequently bring you into association with masters of vessels. Do you frequently talk with them about the navigation of this canal?—A. Yes.

Q. Do you know what depth the old Sault Ste. Marie Canal was?—A. The old Sault Ste. Marie Canal had 12 feet of water over the miter sill.

Q. Tell the committee what was the habit of deep-draught vessels when they loaded in Buffalo or Cleveland and for Lake Superior; how they were loaded and trimmed, and for what purpose.—A. This will be hearsay. I inquire, and do every spring, from the masters of vessels about how they get through the canal, and what draught of water there was in the canal, and they have informed me, I think, every season since I have been inspector, and probably prior to that, that they load their boats with a view of discharging some of the cargo at Sault Ste. Marie, Marquette, Houghton, and Hancock, in order to enable them to go out through the Portage Lake Canal.

Q. Was that true before the construction of the new Sault Ste. Marie Canal; was it true when they had to pass through the old canal?—A. Yes.

Q. When it had only 12 feet of water?—A. Yes.

Q. Tell the committee what that means, loading with respect to unloading at these ports.—A. It would be in this manner: If a vessel with a capacity of 1,200 tons had 1,100 or 1,200 tons of freight for Buffalo or for Duluth, and had also freight for these other points, the probability is that they would only put on 600 or 700 tons for Buffalo and Duluth and would fill up with the freight for these other points, so that they could land this freight at Houghton, Hancock, and Marquette, and be able to pass through the canal.

By Mr. PAYSON:

Q. How else would they load freight if they had freight for the through points and for the intermediate points? What other way would they do it, in a business point of view? They would not put on a full cargo for Houghton or Hancock and then go back empty and take a cargo for Duluth?—A. That is true.

Q. Would not the way you describe be the business way?—A. But in case they had 1,100 tons of freight for Duluth they would not put it on, lest they would make the draught too heavy to pass through this canal. Therefore they would only put on 600 tons of the Duluth freight and 500 tons of freight for these intermediate points, so that they could drop this freight and be sufficiently light to pass through the canal.

Q. What other way would they naturally do it? If there were 1,200 tons of freight for Duluth, and 150 for Hancock, and 150 for Houghton, they would have to take the freight for these latter points on some boats?—A. They have a line of boats leaving Buffalo nearly every day, and they have to arrange their freight accordingly for each point, in order that the boat may be able to pass through Portage Lake Canal. This is the information which I derived from masters of vessels as to the manner in which they load their vessels.

By Mr. MONTGOMERY:

Q. Suppose that there were 1,200 tons of freight for Duluth, and that there was one vessel that could carry the whole 1,200 tons without breaking bulk at all, would the vessel owner load all this freight in one vessel and send it to Duluth through the Portage Lake Canal, or would he rather take two vessels and put 600 tons of freight on each of them, and fill up the vessels with local freight, so as to enable the vessels to go through the canal?—A. The chances are that he would fill up the vessel partially with local freight. Nearly all these boats are passenger boats, carrying passengers to Hancock and Houghton.

Q. That is one of the reasons why they stop there?—A. Yes, and to avoid coming round the point of the lake.

Q. Tell us what there is about vessels that come through the Sault Ste. Marie Canal and make the trips to Houghton and Hancock, going back to Portage Entry and going round the point. Tell us whether they do that or not, and whether they have done it for years.—A. I know that some of them have been compelled to do so.

Q. For what reason?—A. Owing to lack of water in the canal to get through.

Q. After they had passed through the Sault Ste. Marie Canal?—A. Yes.

Q. And after they had lightened some at Houghton and Hancock?—A. Yes.

Q. And they go back to Portage Entry and through Keweenaw Point?—A. Yes.

Q. Was that before the deepening of the Sault Ste. Marie Canal?—A. Yes.

Q. Do you know a boat on the lakes called the Empire State?—A. Yes.

Q. To what line does she belong?—A. To the Transit Company.

Q. Where are the headquarters of that company?—A. At Buffalo.

Q. Were you ever on board of the Empire State?—A. Yes.

Q. Were you on board of her in June, 1880?—A. Yes.

Q. How large a boat is she?—A. Her capacity is probably 1,000 tons.

Q. Is she a propeller or a side-wheeler?—A. She is a propeller.

Q. What breadth would a vessel of that tonnage ordinarily have?—A. They have different breadths of beam for the same length. The ordinary breadth of a vessel of that tonnage would be probably about 35 or 36 feet—her breadth over all.

Q. What amount of water did the Empire State draw at that time?—A. I do not know.

Q. Can you tell us about what her draught of water was?—A. I cannot.

Q. Do you know how she was loaded on this occasion?—A. I know that I was a passenger on board of the Empire State, going to Duluth for the purpose of performing some of my duties there, and I know that she discharged freight both at Houghton and Hancock.

Q. After coming through the Sault Ste. Marie Canal?—A. Yes; the boat then turned around, and I expressed to the captain surprise. He told me that there was not sufficient water in the canal to get through, and therefore he had to go round by Keweenaw Point.

Q. That was the Empire State?—A. It was either the Empire State or the Badger State, I am not sure which. The captain was Captain McQueen.

Q. I will now call your attention to the Japan. Do you know anything about her?—A. Yes.

Q. Do you recollect being once on board of her when she struck ground passing through the canal?—A. Yes.

Q. When was that?—A. In September, 1882.

Q. What draught of water had she at that time?—A. The captain claimed that she was drawing 10 feet 8 inches.

Q. At what point of the canal did she run aground?—A. She did not run aground.

Q. What did she do?—A. She pounded on the bottom passing out through the piers.

Q. Was she in the middle of the channel at the time?—A. Yes, sir; about the middle of the channel.

Q. Do you know anything about the steamer Peerless?—A. I know she scraped the bottom once when I was on board of her.

Q. When was that?—A. I am not positive as to the time. I think it was about midsummer in 1882.

Q. How much water was the Peerless drawing at that time?—A. I cannot say.

Q. What is her habitual draught of water?—A. When fully loaded, about 13 feet.

Q. Was she fully loaded at that time?—A. No, sir; she had her hold partially full of lumber.

Q. Judging from the fact that, when filled, her draught was 13 feet,

and that her hold was partially full of lumber, how much water would you say she was drawing on that occasion?—A. Probably 12 or 12½ feet.

Q. Did she stick fast, or merely pound?—A. She simply scraped the bottom.

Q. Was that just as she passed the bar at the end of the piers?—A. It was between the piers coming in.

Q. As a navigator, tell us what draught vessel you could float in 13 feet of still water?—A. For the simple matter of floating, you could float a vessel with 13 feet draught.

Q. But if you wanted to navigate in that water, how deep a draught of vessel could you navigate in 13 feet of still water?—A. It is difficult to keep steerage way unless there is at least 6 inches of water below the bottom of the vessel. Some vessels would probably require more.

Q. Tell the committee how a vessel acts if you undertake to steer her close to a bank—what the effect is, and what the reason for it is.—A. The average result would be that the vessel would not mind her helm, and would sheer either one way or the other to the bank, where the banks are close to the side of the vessel.

Q. Can you tell us why that is?—A. It would seem as if there was not proper action on the rudder. I cannot account for it in any other way.

Q. Did you know the steamer Manistee, which was lost last fall?—A. Yes.

Q. Were you ever on board of her?—A. Yes.

Q. A good many times?—A. Yes.

Q. How large a boat was she?—A. She was a light-draught boat.

Q. What do you mean by a light-draught boat?—A. She did not draw the average depth of water that large vessels do. I will explain it in my own way. She was originally built 30 feet shorter, and after she had been run some years in that condition she was cut in two and lengthened by 30 feet, which made her, for a boat of her capacity, a rather light-draught boat.

Q. How many feet of water would she naturally draw?—A. I think about 10½ feet was a fair draught for her.

Q. At the time when you were on board of her when she had trouble at the piers (on the occasion to which I will call your attention hereafter), how was she loaded?—A. I do not recollect her having any trouble at the piers.

Q. I mean at the time of the excursion—how was she loaded at that time?—A. She had only a partial load. She had a comparatively light load, so far as cargo was concerned.

Q. How much water would you say she was drawing at that time?—A. Possibly 9½ feet; possibly more.

Q. What happened there in the channel as she was about to approach the dock for passengers?—A. She had stopped to wood further down the canal, and the mate was taking her up; the passengers had got off, and were walking up the pier, and Captain McKay was with the passengers. Captain McKay hailed the mate and told him not to stop out there, but to come in here, "for you are liable to get on at the end of the pier."

Q. What did that mean—"get on"?—A. It meant get on the bottom.

Q. Go aground?—A. Yes.

Q. Tell the committee whether, if it was intended by the act of Congress in controversy here to secure to navigation a breakwater, harbor, and ship-canal which would reasonably answer the purpose of naviga-

tion, that has ever been accomplished by the construction of this canal?—A. In my opinion, it has not.

Q. State what the uniform reputation of the Portage Lake Canal is as to being safe, so far as its harbor and depth of water are concerned, for the navigation of deep-draught vessels.—A. The general reputation of it has not been good as a harbor—that is, the entrance to the harbor.

Q. About how much of the year is it impossible to navigate the canal?—A. I do not know.

Q. Before dredging, for instance, can it be navigated at all by ordinary vessels?

Mr. VAN EATON. Why not say by vessels of 12 feet draught?

Mr. MONTGOMERY. Yes; by vessels of 11 or 12 feet draught.

The WITNESS. I do not know whether that is so every year or not.

Q. Is it usually so?—A. It is the general reputation of the canal.

Q. Is the canal usually navigable during the spring months of May or June for vessels of this draught?—A. I hardly know how to answer that question, whether it usually is or not. There have been springs, as I said before, when steamers have had to go out of the canal and go around the Point; and there have been other springs I think when they went through in a partially loaded condition.

Q. Suppose a vessel is coming from Lake Superior bound east or south, and suppose she encounters a storm of some severity (a vessel drawing 11 or 12 feet of water), would it be possible for her to enter that canal?—A. It might be possible.

Q. Would it be probable that she could do it?—A. No, sir.

Q. Is not that the purpose of a harbor?—A. That would be my opinion of a harbor—yes.

Q. Tell the committee what the usual custom of vessels of this description, and of that draught, is when they encounter a storm of reasonable severity, as they approach the mouth of Portage Lake Canal—whether they attempt to enter the canal?—A. The general rule is to shun it.

Q. Have you any occasion to know the character of the ground around the shore line of the canal?—A. It is sandy soil.

Q. Is that all you can say about the character of the ground?—A. Yes.

Q. I will read you a list of vessels, and ask you to state whether they are light or heavy draught vessels. The Manistee?—A. Light draught.

Q. The Duluth?—A. Medium.

Q. The Arctic?—A. Medium.

Q. The Peerless?—A. Heavy.

Q. The Pacific?—A. Heavy.

Q. The Arizona?—A. Heavy.

Q. The Winslow?—A. Heavy.

Q. The India?—A. Heavy.

Q. The Fremont?—A. Heavy.

Q. The Japan?—A. Heavy.

Q. The China?—A. Heavy.

Q. The Empire State?—A. Heavy.

Q. The Atlantic?—A. Medium.

Q. The Northerner?—A. Heavy.

Q. The City of Cleveland?—A. Light.

Q. The Hodge?—A. Medium.

Q. The Nyack?—A. Heavy.

Q. The Saint Louis?—A. Heavy.

ℓ. The Roanoke?—A. Heavy.
ℓ. The Badger State?—A. Heavy.
ℓ. The Saint Paul?—A. Heavy.
ℓ. The Toledo?—A. Medium.
ℓ. The H. B. Tuttle?—A. Medium.
ℓ. Now tell us what you mean by heavy draught, light draught, and dium?—A. The heavy draught vessels would average from 12 to 14 t, when fully loaded; the medium would run from probably 10 to 12 t.
ℓ. Do the schooners and sailing vessels draw as much water proporıately as the steamers do?—A. No, sir.
Mr. MONTGOMERY. Here is another list: The schooner Charley, the ; Silver Spray, and the propellers Lotta Bernard, Norman, Port Hu-ı, and Phil. Sheridan.
The WITNESS. Some of those are steamers. The Sheridan, I think, ıws, when fully loaded, 12½ feet of water.
Mr. MONTGOMERY. If any of these vessels draw 12 feet of water, or that vicinity, please to tell us (repeating those names).
The WITNESS. The Norman, for a small vessel, had a large draught; draught would probably range, when fully loaded, over 12 feet.
ℓ. Did you ever know, or ever hear, of a large, deep-draught vessel, ly loaded, coming through this canal without lightening or trimming cargo in order to get through?—A. I never knew of one.
ℓ. You have heard of their doing so, have you?—A. Yes.
ℓ. In what case?—A. I heard that the steamer Northerner passed ough the canal drawing 13 feet of water.
ℓ. Who told you so; did you hear it since you came here?—A. Yes.
Mr. MONTGOMERY. I will read you the names of other steamers, and ish you to state whether they are light or heavy-draught steamers. e K. White.—A. The White drew 33 inches of water.
ℓ. The Metropolis and the Keweenaw?—A. They were light draughts.
ℓ. The schooner M. A. Herbert?—A. Light draught.
ℓ. The propellers Tremont and Pacific?—A. Medium.
ℓ. The propellers Cuyahoga and E. B. Ward, and the steamer Ivan-?—A. The Ivanhoe was a light-draught vessel, about 5 feet, I think; E. B. Ward was a heavy-draught vessel.
ℓ. And the propeller Saint Paul?—A. She was a heavy-draught ves-, drawing probably 13 feet when loaded.

Cross-examination by Mr. McCARTER:

ℓ. Be good enough to look at this exhibit [showing to the witness hibit L] and see if you recognize this construction at the end of the p as representing the work at the Lake Superior entrance of the ıal.—A. I think I do.
ℓ. These lines at the right-hand end of the map [exhibiting] are the rs running out in the lake?—A. Yes.
ℓ. That entrance points north, does it not?—A. A little west of th.
ℓ. Where and how would you locate the breakwater of which you ke, and how would you construct it?—A. My idea of a breakwater uld be to run it in a crescent shape.
ℓ. Like a hood surrounding a harbor?—A. Yes.
ℓ. How far out would you locate it?
Mr. PAYSON. Would you locate it beyond the present line of conucted piers?
The WITNESS. That would depend a good deal as to whether I was ıited in means or not.

By Mr. McCARTER:

Q. Suppose you were not limited in means?—A. I should locate it at least half a mile from these piers.

Q. If you assume that the whole structure occupied now by the piers, including the piers themselves, covers 250 feet, plus twice 64, equal to 378 feet, how long would you make your structure so as to completely cover and protect it?—A. I do not know, hardly. It would require to be at least a thousand feet long.

Q. How near would you have the ends of it come to the ends of the pier? In other words, what would be the width of the channel-way between the ends of the breakwater and the ends of the piers?—A. My idea would be to have it nearly the same distance from the breakwater here to the end of the pier (illustrating), nearly as much as the distance to the center.

Q. Nearly half a mile?—A. Yes.

Q. Do you know what the depth of water would be there, half a mile out?—A. I do not.

Q. Do you know what such a breakwater would cost; give us an estimate of its cost.—A. I do not know that I can.

Q. Have you ever seen such a one?

The WITNESS. In this form?

Mr. McCARTER. Yes; in that form.

A. Not exactly in that form. I do not know that I ever did exactly see any in that form.

Q. Then you do not speak from experience of the success of such a thing?—A. No; this was simply a theory of mine as to the breakwater.

Q. How would you construct it; of what material, and by what method of construction?—A. As I said before, that is entirely out of my line of business. I would rather not express an opinion on the subject.

Q. Suppose that when you got half a mile out you find that the water was 100 feet deep, would that make any difference in your plan of constructing such a breakwater there?—A. It might.

Q. These piers point nearly north, and a vessel going east from the western end of Lake Superior and having occasion to go through this canal would come right abreast of the ends of the piers, would it not?—A. Yes.

Q. Do you suppose that, with that structure out there, in a heavy gale of wind, there would be any difficulty in a vessel navigating there?

The WITNESS. Do you mean with the breakwater out there?

Mr. McCARTER. Yes.

The WITNESS. There might be in a very severe storm.

Q. The object of a harbor is to make a shelter for vessels in severe storms, is it not?—A. Yes; that is one of the objects.

Q. And you think that there might be difficulty in a vessel getting in if there was a breakwater there?—A. Yes, there might be difficulty in a vessel getting into any harbor in a severe storm.

Q. Would the difficulty be enhanced in this case by the fact of there being that structure outside?—A. I think not.

Q. It would not increase the difficulty to have that thing cross the mouth of the harbor?—A. I think it would diminish the difficulty.

Q. What is the difficulty, as you understand it, of getting into that harbor?—A. The principal difficulty is lack of water at the mouth of the harbor.

Q. What do you call the mouth of the harbor?—A. Between the piers.

Q. Does that lack of water occur between the piers, or does it occur, as Mr. Williams told us yesterday, 200 or 300 feet out?—A. It is possible that the bar may extend out.

Mr. MONTGOMERY (to Mr. McCarter). You did not understand Mr. Williams to say that the bar commenced 200 or 300 feet out?

Mr. PAYSON. The record will show what he said on that point.

Q. What is your idea about the way that that bar formed there?—A. It is caused by a deposit, I presume; some of it, I presume, comes from the canal.

Q. And some of it from somewhere else?—A. Possibly all of it comes from the canal.

Q. Suppose it should be made to appear to you that, at the ends of these piers when completed, there was 21 feet of water, and that, in the course of six years, the water should be found at the ends of the piers to be only 12 feet deep (I do not mean in the channel, but directly in front of the ends of the piers and close to them), could that filling up have come from the canal?—A. I think it could.

Q. What would be your idea as to the effect of this solid structure run out into the lake in the collection of sands on the sides of it, and in the carrying of the sand to the ends?—A. Probably some of the sand would be carried out to the ends, and it might also be a means of carrying sand up to the ends of the piers.

Q. Your breakwater half a mile out, would it have any effect whatever on the formation of this bar?—A. Hardly any. I do not think it would.

Q. With your breakwater, there would be the same difficulty of getting across the bar as there would be if it was not there?—A. If there was not sufficient water, there would be still the same difficulty.

Q. The breakwater would have no effect, you think, on the fact of the bar there?—A. I beg pardon I did not understand your question. The breakwater being there would cause the water to be smooth, and a vessel of 11½ feet could navigate more easily in a depth of 12 feet of smooth water.

Q. Then your idea is that a vessel would navigate more easily in smooth water?—A. Undoubtedly.

Mr. PAYSON. Assuming that the bar was kept dredged out so that there would be a depth of water of from 14 to 17 feet on it, what benefit would such a breakwater as you propose be, in your judgment?

The WITNESS. There is more or less difficulty in entering all piered harbors when there is a sea on. The piers create a broken-up sea. But a breakwater breaks up a sea and smooths the water so that a vessel can round it and enter perfectly easy without any difficulty in reference to the sea. There is more or less difficulty in entering piered harbors.

By Mr. MCCARTER:

Q. What is a breakwater?—A. A structure for the purpose of breaking the sea and causing smooth water behind it.

Q. That is your definition of a breakwater?—A. Yes.

Q. Any structure which accomplishes that purpose in a greater or less degree is, to the degree in which it accomplishes it, a breakwater, is it not?—A. To a limited extent it might be called a breakwater, if it breaks the water off in any direction.

Q. If these piers are solid structures from the shore out, say 950 feet, will they not operate to break the water coming on either side of them, and are they not a breakwater?—A. These piers extend nearly at right angles with the shore into the lake. With a wind coming down from the

west or the southwest, or from the east or the southeast, and with a heavy sea coming in from the northeast or the north, or the northwest, these piers are comparatively no breakwater at all.

Q. Suppose you have a canal 100 feet wide opening on the lake, what winds (if there were no harbor or breakwater or piers, nothing but just the canal opening 100 feet wide on the lake) would most obstruct the passage of vessels into the canal?—A. The northwest, the north, and the northeast winds.

Q. You mean winds blowing across the mouth of the canal?—A. Winds blowing comparatively into the mouth of the canal.

Q. Would a strong gale of wind blowing across the mouth of the canal be a less hindrance to getting into the canal than a gale of wind blowing on the beam of the vessel?

The WITNESS. Have you reference to a steamer or a sailing vessel?

Mr. McCARTER. To a steamer.

A. It would be less hindrance to a vessel entering the canal.

Q. The cross wind would be less hinderance?—A. Yes.

Q. You think that if there was a breakwater covering the mouth of the canal of the design you have mentioned, it would be easier for a vessel to get into the canal without any piers than with piers?—A. No, I do not know that it would.

Q. Do these piers serve any good purpose there at all?—A. Undoubtedly.

Q. What good purpose do they serve?—A. To form an entrance to the canal.

Q. How do they serve a good purpose in that?—A. For one reason, because they are much wider than the mouth of the canal, and secondly, because they break off any light sea which might come from up the shore.

Q. But you say there are no heavy seas that come in a direction crosswise of those piers?—A. No, sir.

Q. It is only when the wind blows so directly into the canal that there are heavy seas?—A. Yes, when the wind blows either from the northeast or from the northwest.

The witness, at the request of Mr. McCarter, marked on the map what he considered the directions of northeast and northwest.

Q. Do you say that winds coming in either of these directions make no sea?—A. No; I say they make a very heavy sea.

Q. The wind blowing south directly into the mouth of the canal would make a heavy sea?—A. That would make a heavy sea.

Q. Then a wind blowing from the north, the northeast, or the northwest, would create a heavy sea at this place [indicating]?—A. Yes.

Q. Do these piers operate to check the violence of the seas that would be occasioned by a northeast or a northwest wind?—A. Slightly.

Mr. PAYSON. You mean across the mouth of the canal?

The WITNESS. Yes.

Q. Suppose the wind was blowing from the northwest, would a vessel 200 or 300 feet in here be in smooth water?—A. That depends greatly upon how hard it is blowing. If the wind was blowing hard there would be sea in there.

Q. And the same if the wind was blowing from the northeast?—A. Yes.

Q. Would there be much of a sea?—A. There would be some sea clear to the mouth of the canal.

Q. Where would it come from?—A. From the lake. It comes in and strikes the piers and comes into the canal between the piers.

Q. Is Portage Lake a harbor?—A. Yes.

Q. Is it a good harbor?—A. A very good harbor.

Q. How many times have you been through the canal?—A. It is difficult for me to tell.

Q. As nearly as you can tell.—A. I go through there several times every year in the performance of my duties.

Q. On what sort of vessel?—A. On steamers.

Q. What sized steamers?—A. On steamers ranging from 600 to 1,200 tons.

Q. What vessels would you name as having gone through on them?—A. The Manistee, the Peerless, the Japan, the India, and the China.

Q. How many times have you gone through on the Peerless?—A. I cannot say.

Q. More than once?—A. Yes.

Q. Give us an idea of the number of times.—A. Probably ten or a dozen times.

Q. How many times did you go through on the Duluth?—A. Two or three times.

Q. How many times on the Arizona?—A. I never went through on the Arizona

Q. How many times did you go through the canal on the Winslow?—A. I cannot say as to that.

Q. How many times on the India?—A. Probably three or four times.

Q. How many times on the Japan?—A. Probably the same number of times.

Q. How many times on the China?—A. I cannot say.

Q. Have you been through the canal on the China?—A. Yes.

Q. What is your best estimate of the number of times you have been through the canal on the China?—A. I cannot say whether I have been there more than once on the China or not.

Q. How many times have you been through the canal on the Empire State?—A. Probably three or four times.

Q. On the Northerner?—A. I never went through the canal on the Northerner.

Q. On the Nyack?—A. Twice, I think.

Q. On the Saint Louis?—A. I do not know that I ever went through the canal on the Saint Louis.

Q. On the Badger State?—A. Three or four times.

Q. On the Osceola?—A. I never went through on the Osceola.

Q. On the Saint Paul?—A. I never went through on the Saint Paul.

Q. On the Sheridan?—A. I never went through on the Sheridan.

Q. On the Norman?—A. No, sir.

Q. On the E. B. Ward?—A. No, sir.

Q. How many times in your experience did those vessels strike bottom, or have any difficulty in getting through the canal?—A. You might not say that the Empire State had any difficulty in getting through. She came out and went around Keweenaw Point.

Q. I am asking about the vessels that went through the canal with you on board?—A. The difficulty of any of them passing through was not serious, with the exception of one.

Q. Which was that?—A. The Japan.

Q. What was the difficulty there?—A. Pounding on the bottom.

Mr. PAYSON. What year was that?

The WITNESS. That was in September, 1882.

By Mr. McCarter:

Q. That pounding was at the end of the pier?—A. Yes, sir; going out of the piers.

Q. Can you tell the location of the vessel, where she was with reference to the piers at the time that she pounded on the bottom?—A. My recollection is that she was near the center of the channel.

Q. Do you know where the channel is?—A. I mean in the center between the piers.

Q. You mean, measuring from one pier to the other, that it was near the center of that distance?—A. Yes.

Q. Do you know whether the deep-water channel occupies the same position as the middle of the piers does?—A. I do not.

Q. Do you know whether it is a little deeper on one side of the center than on the other?—A. I do not.

Q. Do you know whether the vessel was in the proper channel at the time, except from what the captain told you?—A. No, sir.

Q. Was the vessel going out, or coming in?—A. She was going out.

Q. Would a boat going from Buffalo to Duluth, with a cargo only for Duluth, go through that canal in ordinary weather?—A. That would depend upon whether she was a passenger boat or not.

Q. Unless she had passengers or freight for any port but Duluth, would a vessel coming from Buffalo go through that canal at all?—A. No, sir; not in ordinary weather—probably not.

Q. Then if a vessel was loaded with a full load of freight for Duluth, she would not go through that canalat all?—A. The probability is that she would not.

Q. Then such a vessel would only go through the canal when she had freight or passengers for some intermediate port on Lake Portage?—A. Stress of weather might tempt them to go through the canal.

Q. But if the general reputation of this canal is that a vessel cannot go through it, and that the vessels that come through the Sault Ste. Marie Canal cannot get through the Portage Lake Canal, would stress of weather be likely to drive them into it?—A. You simply asked me whether they would go that way or the other, and I said that stress of weather might tempt them to go through this canal.

Q. If its reputation were as bad as you say it is?—A. No, sir; I do not think they would then.

Q. You said something to the effect that, generally speaking, the boats which navigate that lake and come through the Sault Ste. Marie Canal do not use the Portage Lake Canal on account of an insufficient depth of water; do you mean to swear to that?—A. I mean to swear that that is the information which I derived from masters of steamers. That is all.

Q. Give us the names of the steamers and the names of the masters who told you so.—A. I do not know that I can give you all of them.

Q. Give us one of them.—A. Captain McQueen, of the Empire State.

Q. Is he the one you spoke of before?—A. Yes.

Q. Who else?—A. Captain Niland, of the Japan.

Q. What did he tell you?—A. I cannot tell you all that he told me.

Q. What did he say which you say gives this canal its reputation?—A. He told me that there was not sufficient water in it for him to get out there with his boat loaded.

Q. When was that?—A. He told me so several times; I do not recollect exactly when.

Q. In what years?—A. He told me so in 1882. I do not recollect the other years. I talked with him about it several times.

Q. What time of the year?—A. In September, 1882, I think; and also, I think, in the spring of 1882, but I am not positive as to that.

Q. What other captains did you talk to?—A. Captain McIntyre, of the Peerless.

Q. What did he say?—A. I cannot give you his conversation; it is utterly impossible for me to do so; I do not recollect it more than the general talk which I had with him and other steamboat captains. I generally made the inquiry in the spring, when they come up the lake and come down to Marquette, as to the relative condition of the canal to get in and get out. It was the general conversation. I cannot recollect as to what they said, nor as to the exact time at which they said it.

Q. You say you talked with them in the spring of the year?—A. Yes.

Q. What time in the spring of the year did they generally come there?—A. Along in May, probably the latter part of May, on their way down.

Q. What other captains can you name, and on what vessels?—A. I do not know that I can specify any. It was general talk—sometimes with one and sometimes with another, just as I happened to catch them.

Q. On the occasions which you have narrated, the captains whose names you have mentioned, were they speaking of particular specific instances where they had difficulty in passing through the canal, or how did they come to mention the subject—what did they say?—A. It was generally in reply to an inquiry from me to them as to what water there was in the canal—whether they could get through or not; and they would state whether they could or not, and generally give me what the draught of water was—probably what Mr. Pryor had notified them at Houghton.

Q. That was in the spring?—A. Yes.

Q. And they had asked Mr. Pryor the draught of water, and he told them, and they reported it to you?—A. Yes.

Q. What do you know about steamers unloading freight at either Houghton or Hancock, so as to get through the canal?—A. The information simply came to me like the other—from the captains.

Q. They told you how they discharged part of their freight at those places?—A. Yes.

Q. That freight had to go there some time, had it not?—A. Undoubtedly.

Q. Was that anything more than the convenient method of transporting freight there which had to be sent there?—A. No; but the statements to me were that the boats were loaded in a shape so that when they took off part of their cargo there they could get through the canal.

Q. But part of their cargo was freight which had to go to these points?—A. Undoubtedly.

Q. Did you ever hear that any of the vessels were compelled to unload freight that was destined to more distant points, so as to be able to get through the canal?—A. No, sir.

Q. The boats had no trouble in getting to their destination with the freight they had?—A. I have known boats to come out of the canal and go around the point.

Q. What do you know about that?—A. I know something from hearsay, and something from my personal knowledge.

Q. I will first take your personal knowledge. What do you know about that?—A. I was simply on board a boat when the captain informed me he was compelled to go that way.

Q. That was the Empire State, was it?—A. Yes.

Q. When was that?—A. In June, 1882.

Q. How did the captain find out the depth of water?—A. I presume he received information from Mr. Pryor.

Q. Did he tell you that he received the information from Mr. Pryor?—A. I do not know that he did, but that was the presumption.

Q. Do you know anything more of it from your own observation?—A. I never was on any other steamer that had to go around.

Q. Now, as to the hearsay part of your testimony, what captains have told you as to the necessity of their doing that?—A. I cannot mention any particular one who told me, but I know that I have been told by several captains (I do not recollect whether it was that spring or not) that on their making inquiry as to the water in the canal they were compelled to come out and go around the point, as there was not sufficient water to get through.

The committee here took a recess until 2 o'clock.

After recess the cross-examination of CHARLES D. BLANCHARD was continued as follows:

By Mr. MCCARTER:

Q. It was in September, 1882, that you say the Japan pounded on the bottom?—A. Yes.

Q. Do you remember what the weather was?—A. The wind was from the northeast.

Q. Was it rough?—A. It was a little rough; it was commencing to blow very hard.

Q. Then that occasion with the Japan, and the occasion that you mentioned when you were on board the Empire State, where the captain went back because he said there was not water enough in the canal, these are the only instances that you know of where any difficulty was encountered in getting through?—A. Any serious difficulty.

Q. What is the reason that a vessel will not mind her helm when close to the bank?—A. I cannot account for it in any other way except that the water does not have the same effect when a vessel is passing through a narrow channel.

Q. You mean still water?—A. Yes; the water does not come clean and solid to the rudder, so that the rudder will have the same effect as where there is a sufficiency of water.

Q. Is that, to your mind, a satisfactory reason for it?—A. Yes.

Q. This time that you speak about being there on an excursion, when was it?—A. I cannot say when it was; it was in 1880, 1881, or 1882.

Q. How long has it been since you have heard this talk of the captains, and the other reputation of which you speak, as to the insufficiency of the canal; how long back does it go?—A. More particularly back including 1878. I did not make it my business to inquire particularly about it prior to my appointment to the Government position of Inspector of Hulls.

Q. That was the commencement of your service up there?—A. Yes.

Q. And it was the commencement of your having occasion to inquire about the canal?—A. Yes; I felt some interest in it, of course, before my appointment; but I felt more interest in it afterwards.

Q. Are you acquainted with the structure at the mouth of the Menomonee River, on Green Bay?—A. No, sir; I am not.

Q. Are you acquainted with the structure at the mouth of the Lac la Belle Canal?—A. No, sir; I have been there, but I did not pay much attention to it.

Q. How about the canal when it gets into Portage Lake—at the upper

end of it, opposite the Lake Superior end; what structure was there there?—A. My impression is that on one side there was what would be commonly termed a small pier.

Q. What purpose did that serve?—A. I think there was a light placed there to guide steamers at night to the entrance of the canal.

Q. Was it a solid pier crib, or was it simply a pile pier?—A. My impression is that it was a pile pier.

Q. How long was that pier?—A. I would not pretend to say.

Q. Give us your best estimate.—A. It is short; I cannot give an estimate; I never paid attention enough to it to estimate its length.

Q. On this occasion of the excursion of which you speak, where was the mate taking the vessel?—A. He was taking her from the wood dock, further down the canal. The party had got off the boat, and was walking up on the bank to the east pier.

Q. How far out on the pier had the party gone?—A. They were straggling all along the pier.

Q. Just tell us what you wanted to narrate about the action of the captain, what it was proposed to do, and what was done.—A. The mate's proposition was to land at the end of the pier, and take in the passengers inside as they were walking along. Captain McKay, who was with the portion of the excursionists on the shore end, hailed him, and told him, "Come in here." The mate said, "I will stop at the end of the pier." Captain McKay said, "No, come in here, and take on the passengers; you are liable to get on out there."

Q. And you inferred from that that around the piers the water was shoal?—A. I inferred from it that near the end, inside, the water was shoal.

Q. Were those piers designed for a landing place for passengers, or for discharging freight?—A. I should say that they were not.

Q. For what were they designed?—A. They were designed, I presume, for a harbor.

Q. What would you call the space between those piers?—A. It is commonly termed by steamboatmen "between piers."

Q. What would you call it?—A. That would be the way I should term it. If I were going to designate any particular point there I should say at that point "between piers."

Q. Taking the whole structure together, the piers and the space between the piers, what do they constitute?—A. They constitute an entrance to the harbor.

Q. Do they not constitute a harbor?—A. Not a safe one.

Q. Do they not constitute a harbor?

The WITNESS. May I answer that by asking another question? Do you mean in their present condition?

Mr. MCCARTER. I repeat the question. These piers, running out from the shore line 950 feet, and inclosing a space 250 wide at the mouth, does not the whole structure, including the part contained within the piers, constitute a harbor?—A. I should say not.

Q. What is a harbor?—A. A place of protection from the violence of the sea.

Q. Then this does not constitute a place of protection from the sea?—A. Only to a limited extent.

Q. Does it to any extent?—A. Yes; to a limited extent.

Q. Then it is a harbor to a limited extent?—A. To a limited extent it is a harbor.

Q. Can you name any vessels that navigate Lake Superior above

Marquette which are not included in the list of vessels already enumerated to you?—A. Yes.

Q. What ones?—A. The Iron Duke.

Q. Is she light or heavy?—A. Heavy.

Q. Where does she trade to?—A. She trades between points on Lake Superior as far as Duluth.

Q. Any other?—A. Yes; the Iron Age.

Q. What is her draught?—A. She is a deep-draught vessel.

Q. About the same draught as the other deep-draught vessels that have been named?—A. Yes.

Q. Any other?—A. The Iron Chief.

Q. Any other?—A. W. T. Graves.

Q. Any other?

The WITNESS. Including the steamers and all?

Mr. MCCARTER. Yes.

A. The Hope, Walula, Tacoma, Wilson. There are a great many others, but I really cannot call their names.

Q. Where do they belong?—A. To the lower lakes.

Q. Where do they generally trade to—I mean their general ports?—A. Marquette and Duluth.

Q. Do they go constantly to Duluth?—A. Very frequently.

Q. What do you mean by "very frequently"?—A. Their up freights are generally to Duluth.

Q. Did you ever see any of them in Houghton?—A. I don't know that I have.

Q. If they were vessels of the draught of those which you have enumerated as heavy-draught vessels, would there be any more difficulty in their going through the canal, if they desired to do so, than there would be in the deep-draught vessels, which were named before, going through?—A. I think there would.

Q. What would it be?—A. It would be owing to their construction.

Q. What, in the character of their construction, would make the difference?—A. That class of vessels, as a general thing, is constructed with a flat bottom, or a bottom nearly so—not having as much dead rise as passenger boats. They are not as sharp boats, so that it is more difficult to steer them in narrow water.

Q. Were not the Iron Duke, and the other vessels enumerated (most of them), built to carry iron ore from Marquette to Cleveland. Was not that their principal trade?—A. Yes; I believe it was. I have no knowledge of the fact.

Q. They went through the Sault Ste. Marie Canal, did they not, when there was only 11½ feet of water over the miter-sill?—A. Yes; 12 feet of water over the miter-sill.

Q. Were they freight boats or passenger boats?—A. They were freight boats.

Q. Do you know of any general freight and passenger boats that trade above Marquette that cannot ordinarily go through the canal when fully loaded?—A. Yes.

Q. What ones?—A. The Peerless would be one.

Q. I mean in addition to those that you have named?—A. I do not. I beg pardon; I did not understand your question.

Q. You say that the Peerless cannot ordinarily traverse the canal fully loaded?—A. I think not, fully loaded.

Q. Do you know anything about it of your own knowledge?—A. No, sir.

Q. Suppose it were shown to you that the Peerless went through that

canal seventeen times in 1874, would that modify your judgment any as to the capacity of the Peerless to go through?—A. The question would arise in my mind as to whether she was loaded or not.

Q. She would not want to go through if she had no cargo, would she?—A. She might want to go through without a cargo.

Q. Going up?—A. She might take passengers up.

Q. Then she would go for passengers?—A. Yes.

Q. And take no cargo?—A. She might; yes.

Q. How about coming back?—A. She might come back and load iron ore or lumber below Portage Lake.

Q. Would she be likely to do that seventeen times in a season?—A. I cannot say; probably not.

Q. In the case of the vessel Peerless, would she not load with lumber at Bayfield on her way back?—A. Sometimes she would and sometimes she would not.

Q. Now, take the Winslow. She was a heavy-draught boat, was she?—A. Yes.

Q. Suppose that she went through the canal twenty-three times in the summer of 1874, would you then say that the canal was navigable for a vessel of that draught?—A. Partially loaded; yes.

Q. Suppose that she took all the load which she had for the ports that she went to?—A. These boats, I believe, are designed to take part of a load at Duluth, and the balance at Houghton, in copper. They are copper boats.

Q. Designed for the copper trade?—A. Yes.

Q. And that is above the canal?—A. No, sir; at Houghton. That is the point where they take the copper.

Q. Now, as to the Duluth. I think you said that she was a deep-draught vessel?—A. Yes.

Q. Suppose that she went through the canal in 1875 fourteen times; would you say that this canal was navigable for her?—A. I could not very well deny it.

Q. Do you know anything about the propeller A. L. Craig?—A. Yes.

Q. Is she a deep-draught vessel?—A. I would class her as a medium-draught boat.

Q. What would you say was her draught of water?—A. Not exceeding 12 feet.

Q. Suppose the A. L. Craig went through this canal sixteen times in the season of 1875, would that modify your opinion any as to the canal being navigable for vessels of that class?—A. In a partially loaded condition.

Q. Suppose the Peerless went through twelve times in 1875, would you say that that was not subserving the purposes of commerce?—A. I should, under some circumstances, yes.

Q. Why?—A. Because it is an established fact that, as a general thing, they go there only partially loaded.

Q. After having discharged their cargo for places on the lake?—A. Yes.

Q. Is it not as much a purpose of commerce to transport that freight as it is to transport the freight going to Duluth?—A. Certainly; it is part of the lake commerce.

Q. Do you know that during all these times—seventeen times in 1874 and fifteen times in 1875—that the Peerless went through, she loaded part of her cargo for Houghton, Hancock, and Duluth, and discharged part of it at Houghton and Hancock?—A. I do not know positively that she did every time.

Q. And if she did it so every time, can you say that she did not subserve the purpose of commerce just as well by this mode of lightening and discharging as if the cargo and passengers for Hancock and Houghton had been carried some other way?—A. I hardly know how to answer that question.

Q. Suppose she went through the canal in the year 1876 twenty-one times; would you say that the canal was not navigable to vessels of that character?—A. It would depend upon her condition whether I would express an opinion of that kind—as to whether she was partially loaded or fully loaded.

Q. Do vessels generally sail with a partial cargo when they can get a full one?—A. Not when they can get a full one.

Q. Take the Peerless. When she went through the canal in 1876 eleven times, would she have done so if the canal had the reputation you state?—A. Possibly, in a partially loaded condition.

Q. Is the St. Paul a deep-draught vessel?—A. Yes.

Q. Suppose she went through the canal in 1876 fourteen times?—A. The conditions would be the same in regard to all of them.

Q. How many trips will a steamer make in a season?

The WITNESS. From where to where?

Mr. MCCARTER. These large-draught vessels that ordinarily traverse these lakes, and that would, if they could, go through this canal; how many trips do they make in a season from Buffalo to Duluth?—A. From twelve to fourteen.

Q. What steamer was it that you said backed out of the canal and went around Keweenaw Point?—A. It was either the Empire State or the Badger State. Captain McQueen was the captain; but I cannot say on which vessel he was at that time.

Q. What year was that?—A. In 1882.

Q. Suppose that it was made to appear to you that the Empire State went through this canal twenty-four times in the year 1882. What would you say as to the capacity of that vessel to navigate that canal?—A. My answer would be the same as in regard to the others. It would depend upon her condition.

Q. Was the Badger State a deep-draught vessel?—A. Yes.

Q. Suppose she went through nine times in the season of 1882, and the St. Louis fifteen times, and the Northerner thirteen times, and the Nyack thirteen times, and the India fifteen times, and the Winslow eleven times, and the China thirteen times, and the City of Duluth eighteen times, and the Hodge twenty-one times, and the Peerless twenty-one times, and the Osceola nine times—if that were all shown to be true, would you still think that this canal did not serve the purposes of commerce, and was not navigable for vessels of that character?—A. It was navigable in the conditions in which they went through.

Q. Do you know anything about the conditions in which they went through?—A. Only from the general statement I have made.

Q. Founded on the information that you got from others?—A. Yes.

Q. Do you know anything about the method of lightening or discharging of freight, or anything about it?—A. No, except from information derived from masters of steamers.

Q. If it were true that these deep-draught vessels did actually go through the canal the number of times that I have stated, respectively, for each one of the seasons mentioned, what authority is there for your statement that the canal is not navigable for deep-draught vessels?—A. Because I have been informed that they do not go through there loaded, and cannot go through there loaded.

Q. What steamers did you command on the lakes?—A. The E. B. Ward, jr., the John A. Dix, the A. C. Van Rallte, the Mystic, the Ira Chaffee, and several tugs. I was in the tug business some years.

Q. What size vessels were those?—A. They were of medium size. The tugs, of course, were small.

Q. Were they passenger boats?—A. Some of them were.

Q. Which ones?—A. The Chaffee, the Van Rallte, and the Mystic.

Q. Where did they ply?—A. The Mystic plied as a passenger boat between Marquette and Houghton. She carried mail, passengers, and freight, and did the chief commerce between Marquette and Grand Island.

By Mr. MONTGOMERY:

Q. Suppose a vessel comes from Duluth for the East, or comes from the East for Duluth, and as it is about reaching Portage entry or the Lake Superior entry of this canal, as the case may be, there are threatenings of a severe storm. What would a ship master ordinarily do, if he knew that he could enter the canal?—A. He would naturally take the canal, if there was sufficient water, and he knew that it were safe to do so.

By Mr. REDINGTON:

Q. Suppose a storm were prevailing on the lake, what would he do?—A. In the present condition, or the reported condition of the canal, he would go around the Point, if he could get around.

By Mr. MCCARTER:

Q. What do you understand by the present or reported condition of the canal?—A. The lack of water.

Q. What is a sufficient draugh of water for the ordinary navigation of those lakes, and for the vessels that take that route?—A. From 16 to 18 feet.

Q. Would the masters of these, or any other vessels, expect to get a depth of 16 feet in a canal when the act of Congress only requires 13 feet?—A. I suppose not.

By Mr. VAN EATON:

Q. Look at Exhibit L and state whether the point showing where the structure begins to widen is the mouth of the canal.—A. Yes.

Q. To construct a breakwater and harbor, might the plan which has been adopted here, by widening these piers and running them out parallel, be adopted, or must a breakwater, semi-circular, as you have spoken of, be constructed? Is it necessary first to run these wide piers out there in order to have a harbor?—A. Yes; it is necessary to have the piers.

Q. As far out as this 900 feet?—A. I think that the harbor could be constructed by extending the piers into a sufficient depth of water, without the breakwater, although there is always more or less difficulty attending the entrance of all piered harbors.

By Mr. PAYSON:

Q. What depth of water at the outer end of the piers would be sufficient, with parallel piers in the same form as these, for a canal 13 feet deep?—A. In my judgment, there should be 18 feet of water between the jaws of the piers.

Q. That would be sufficient depth, in your judgment, for a canal of 13 feet depth?—A. Yes; I think so.

By Mr. VAN EATON:

Q. I understood you to say that this general plan, which has been adopted in this canal for running parallel piers, is being adopted, in some instances, for breakwaters and harbors.—A. I did not say for breakwaters; I said for entrances to harbors. Piers of this kind are being adopted, and have been used for years, extending into sufficient water. There is more or less danger attending this kind of harbor; but at the same time piers are used as entrances to harbors.

Q. So constructed that they are in practical use for entrances to harbors?—A. Yes.

Q. With or without the semi-circular breakwater that you speak of?—A. Without that.

By Mr. REDINGTON:

Q. Suppose you should find a canal constructed with piers of this kind, running out to a depth of water of 18 feet; and suppose you should discover that that canal, in the spring of each year, was filled up so as to require dredging in order to obtain a depth of 13 feet, would such a structure, in your opinion, be a harbor suitable for the navigation of boats that would ordinarily navigate a 13-foot canal?—A. No, sir.

Q. Suppose you should construct such a canal as I have described in such a manner that it would not fill up every year, but that the channel would remain permanently at a depth of 13 feet; what further, if any, effect would be given by the construction of the outside breakwater which you have described?—A. It would render the access of the harbor much easier by keeping the water smooth at the entrance.

By Mr. DAVIS:

Q. Did you ever see Lac la Belle Canal?—A. Yes; but I cannot give any description of it.

Q. You cannot tell how the piers there are built at the mouth of the canal?—A. No, sir.

Q. You live at Marquette?—A. Yes.

Q. How long have you lived there?—A. I have lived there with my family since 1874.

Q. Did you ever see them dredging the harbor of Marquette?—A. Yes.

Q. Where?—A. Around the docks.

Q. For what reason were they dredging at the docks?—A. To deepen the water.

Q. What shoals the water there?—A. I do not know what shoals it. They have been increasing the size of vessels, and they had to deepen the water in the harbor.

Q. Do they not dredge all over the harbor there?—A. No, sir.

Q. All about the piers?—A. No, sir.

Q. What piers do they dredge?—A. About the Marquette, Houghton, and Ontonagon Railroad piers, and the Cleveland pier.

Q. Do they dredge at the end of the piers?—A. No; I never saw them dredge at the end of the piers.

By Mr. MCCARTER:

Q. You have seen pierced harbors?—A. Yes; pierced entrances to harbors.

Q. Is that a contrivance similar to this?—A. Very similar.

Q. Did you ever know of one that did not require to be dredged?—A. I cannot state whether I have or not. I have seen those which have

been dredged; but whether they all require to be dredged or not, I cannot tell.

Q. What ones have you seen dredged?—A. Cleveland, for one.

Q. Where else?—A. Buffalo.

Q. Where else?—A. Portage Lake Canal.

Q. Have you seen the harbor at Ontonagon dredged?—A. Yes.

Q. Is that a Government work?—A. Yes.

Q. Is the Cleveland harbor a Government work?—A. Yes.

Q. And Buffalo?—A. Yes.

Q. What sort of a breakwater have they at Ontonagon?—A. They have not any there.

Q. What have they?—A. A pier.

By Mr. PAYSON:

Q. In your observation as to the difficulties about the harbors you have named, did you ever see any of them with an outside structure, such as you have described here?—A. Not exactly the same; but I have seen breakwaters. There is one at Buffalo, a pier, and one in Cleveland, a pier, for the purpose of smoothing the water.

Q. Did you ever see any such one as you have described here, which you thought should be constructed opposite this canal—did you ever see such a one as that? If so, where?—A. I do not know that I did, exactly; no, sir.

By Mr. REDINGTON:

Q. You said something about other breakwaters that were not formed in a crescent shape. Describe them.—A. The one at Cleveland juts out from the shore, giving vessels opportunity to run around the lower end, and at Buffalo vessels pass around either end of the pier.

Q. You think that a crescent shape would be an improvement over the straight pier?—A. That is my impression.

Q. Did you ever see the Delaware breakwater?—A. Yes.

Q. What kind of a breakwater is that?—A. It is a stone structure.

Q. Do you mean that you would put into the mouth of this canal a breakwater answering the same purpose as the Delaware breakwater?—A. I do not know that I would like to state that, as my knowledge of the Delaware breakwater is somewhat limited.

Q. Do you know about the breakwater at the mouth of the Chicago River?—A. If I were to put a breakwater there, the object would be to smooth the water at the entrance of the harbor, and also to let vessels round there.

Q. You think that that would be an improvement?—A. That is my view.

By Mr. MCCARTER:

Q. What is the Delaware breakwater composed of?—A. My impression is that it is a stone structure.

Q. You say that the breakwater at Cleveland is constructed out from the shore?—A. Yes.

Q. How far out in the lake?—A. I really cannot give you the distance. It extends down by the pier, so that there is ample room for vessels to run behind it and let go their anchor.

Q. Are you an engineer?—A. No, sir.

Q. What would you think of the opinion of an engineer, expressed as to this canal structure, in which he would say that the placing of a breakwater to cover the head of the canal would do nearly as much

harm as it would do good; because, while it might make the water smoother, it would cut off a straight approach to the canal, and thus increase the difficulty of making the entrance; and that vessel captains do not think such a breakwater an improvement? What would you think of such an opinion as that, expressed by a competent engineer?—A. I should not concur in his views.

EZRA T. WILLIAMS recalled, and cross-examination continued.

By Mr. McCARTER:

Question. Did you build the entrance to Lac la Belle Canal?—Answer. Yes.

Q. How is it built?—A. With two piers.

Q. What kind of breakwater has it?—A. It has nothing but two piers parallel with the canal.

Q. Can you draw a diagram representing how these piers stand at Lac la Belle?—A. They stand parallel with the canal.

Q. How far out do they extend?—A. I cannot give the distance, say 500 feet.

Q. Are they as substantial and heavy and important works as those piers?—A. No, sir.

Q. Did that work require to be dredged?—A. Yes.

Q. Did it fill up?—A. Yes.

Q. What caused it to fill up?—A. It was caused by the break around the shore end of the piers.

Q. What do you mean by the break?—A. The sea breaking around the shore end of the piers.

Q. How does the sea get through?—A. It breaks through the sand where the pier connects with the beach.

Q. When was that work built?—A. I think we commenced that work in the fall of 1864, and finished it early in 1867.

Q. In 1866 had the structure taken such form as that it could be known generally what the character of the work was, and what the plan of the harbor was?—A. Yes.

Mr. PAYSON: Where is Lac la Belle?

The WITNESS. It is at the end of Keweenaw Point. Keweenaw Point runs into a small lake called Lac la Belle.

Mr. PAYSON. How long is the canal there?

The WITNESS. The canal is about $\frac{1}{8}$ of a mile.

Mr. PAYSON. Running to what bay?

The WITNESS. Running from Bete Grise to Lac la Belle.

By Mr. McCARTER:

Q. When did you first hear those complaints of steamer captains as to the insufficiency of the canal?—A. I think, as nearly as my memory serves me, that I have heard them from the time of the completion of the canal.

Q. Have you talked to captains about it?—A. Yes.

Q. How did you come to talk with them about it?—A. Being connected in that line of business they say a great many things to me, no doubt, which they would not say to anybody else.

Q. Your line of business is dredging?—A. Yes, and harbor protection.

Q. You agreed with those captains in their opinion on the subject, did you?

The WITNESS. How?

Mr. McCARTER. That this canal was not sufficient.

A. Yes, I agreed with them, from my knowledge of it.

Q. And you expressed that opinion?—A. I presume I did.

Q. Was it not your habit, in talking with captains, to give them the impression and to concur with them in the opinion that this canal was not deep enough, and that the entrance to the canal was not deep enough?—A. No; not unless I had a base and right to make that statement.

Q. You thought you had a base and right to make the statement?—A. Yes.

Q. And you did make it?—A. I presume I did.

Q. You never did any soundings there?—A. No, sir.

Q. What base had you for going on as to the depth of water?—A. On common reports—current reports.

Q. Are you familiar with the Menomonee River?—A. No, sir; I never saw it.

By Mr. DAVIS:

Q. Do you know Ontonagon?—A. Yes.

Q. How is it in Ontonagon?—A. There are two piers extending from the shore at the mouth of the river.

By Mr. McCARTER:

Q. How far out do they extend?—A. I should judge 1,000 feet, more or less.

Q. About how wide apart are they?—A. I should think they were 225 feet apart, but that is guess-work.

Q. Are they parallel?—A. Practically.

Q. Do they answer the purpose?—A. Yes.

Q. Do they require dredging?—A. Yes.

Q. Every year?—A. It ought to be done every year.

Q. As a dredge man you would think so, but how is it in fact?—A. When they do not do it, boats do not get in there with a large draught of water.

Q. Is that a Government work?—A. The putting in of the piers is Government work.

Q. Would you call that a harbor?—A. Not up to the present time with the amount of work done there.

Q. What will be necessary to make it a harbor?—A. It will be necessary to extend these piers into water at least 30 feet deep, and to dredge out clean between the piers.

Q. How far out would they have to go to reach water 30 feet deep at Ontonagon?—A. From what I have understood, I presume they would have to go out there upwards of 1,500 feet and perhaps 2,000 feet from the shore line. It is a long flat out from the mouth of the river.

Q. Why does this require to be dredged?—A. They have quite a deposit coming down the river. In the first place it never has been dredged out, except in patches, one or two cuts at the most.

Q. When that is done, why does it not answer?—A. Because they do not give it width enough, and because the piers are not out in a sufficient depth of water to keep the channel open.

Q. What closes the channel?—A. The current of the river and the wash of the sea.

Q. How does the wash of the sea get in?—A. It comes in between the piers. A bar forms near the center of the channel and shifts about a little with the northeast and northwest winds.

Q. How does the sand get there? Does it all come down the river?—A. Yes; and where it meets the sea and has no chance to spread, it drops and forms a bar.

Q. Has not the sand filled up and made land outside of the west pier at Ontonagon?—A. Yes, sir; it has.

Q. Between the shore and out on the pier?—A. Yes; a long way.

Q. How long?—A. I do not know; I presume upwards of 100 feet.

Q. How do you account for that?—A. As being largely material that is dumped in there, and through the washout from the river.

Q. How much water is there between the piers there?—A. It is a narrow channel there I guess of 11 or 12 feet deep.

Q. You say that this made land has been made (besides the dumping) by the sand brought out of the river and carried out to the piers and then carried to the shore?—A. Yes; by the shifting of the wind.

By Mr. PAYSON:

Q. You think that there should be a depth of 50 feet of water at the end of the piers?—A. That would make it so much easier for a vessel to be controlled in a gale of wind. Ontonagon, as a harbor of refuge, would be a great benefit to commerce if those piers were extended into this extra depth of water. Vessels then could enter in big storms.

By Mr. MCCARTER:

Q. Do you know the depth of water at New York Harbor across the bar?—A. I do not.

Q. Do you know whether it requires to be dredged at times?—A. I do not doubt it.

Q. Did you ever know of any vessel striking between the piers of this Portage Lake Canal?—A. I have been told so. I will not say positively. I have a faint recollection that I was on the Badger State when she rubbed on the bottom.

Q. What kind of weather was it on that occasion?—A. It was ordinary weather, with a little bit of east wind.

Q. What time of year was it?—A. I cannot tell.

Q. What depth of water was there between the piers and Lac la Belle Canal when you finished that work?—A. Twelve feet.

Q. Was that the required depth?—A. Yes.

ALONZO C. DAVIS sworn and examined.

By Mr. MONTGOMERY:

Question. Where is your home?—Answer. In L'Anse.

Q. What is your occupation?—A. Mining.

Q. How long have you lived at L'Anse?—A. Only a short time.

Q. How long have you lived in the Upper Peninsula of Michigan?—A. Most of the time since 1846.

Q. Have you ever seen this Portage Lake Canal?—A. I have.

Q. What is your best recollection as to whether it is sheet piling the whole length of the canal?—A. It is only sheet piled the length where the banks are high.

Q. Have you had occasion a good many times to ride through that canal on vessels?—A. I have.

Q. How do vessel masters regard that canal as a harbor and as a proper place for the passage of their vessels?

(Objected to by Mr. McCarter; and question admitted.)

A. I have heard a good many masters of vessels say that they did *not* consider it safe to go in at all times in heavy weather.

Q. What is the general reputation of the canal as to its being a safe place and fitted for the purposes of navigation—what is its reputation through the entire country there, so far as you know?—A. It depends upon the class of vessels.

Q. What is its reputation as to its being sufficient to accomodate the transit of deep-draught vessels?—A. I can only give the general impression.

Q. That is what I asked for—?—A. That it is not, at all times, in a condition for large vessels to go through.

Q. Do you know a tug called Mathan?—A. Yes.

Q. Where is she owned?—A. I think she is owned at Houghton.

Q. Do you know what her draught of water is?—A. I think 9½ or 10 feet.

Q. Have you ever been through the canal on board of her?—A. A great many times.

Q. Did you ever hear, when passing through, the master of that tug talking of the danger of going aground?—A. I remember one trip particularly, when it was blowing a tremendous gale and when there was a heavy sea running, the captain said he was afraid to go into that canal lest the vessel would go aground.

Q. Please state whether or not, in passing through the canal at any other times and on other vessels, you have heard ship-masters talk about the safety of the canal and the depth of water.—A. I have never but once been on a vessel going through the canal when she touched bottom.

Q. What vessel was that?—A. The Manistee.

Q. When was that?—A. About nine years ago.

Q. What was the draught of the Manistee at that time—her usual draught?—A. I cannot tell you.

Q. Do you know of your own knowledge any instance where a vessel went around the point so as to avoid going through this canal?—A. Yes; I came on board the Manistee from Ontonagon. She had a very large load aboard. After she left Ontonagon she encountered a gale of wind. Captain McKay was afraid to go on through the canal, and he went on around the point

Q. What was she loaded with?—A. All sorts of material, grain and flour, from Duluth to Houghton and Marquette.

Q. Would that be a bulky load or a heavy load?—A. Quite a heavy load.

Q. Do you know how much water she was drawing?—A. I do not know. I only know that the captain said he was afraid to go in by the canal. The wind was from the northwest and there was a very heavy sea running into the canal.

Q. When was that?—A. My recollection is that it would be about five years ago.

Q. Assuming that the basis of this land grant was to secure the construction of a breakwater and harbor and ship canal which should answer the ordinary and usual purposes of reasonable navigation, has that purpose been accomplished by this work?—A. In my judgment it has, and has not. For parts of the year it has, and for parts it has not.

Q. Do you mean to say that in parts of the year it is navigable for all vessels?—A. I do not know. I know that a great many large vessels have gone through.

Q. Would a deep-draught vessel in severe weather encounter that

canal?—A. They would not like to go out of it or into it in very heavy weather. It is like most other harbors in that respect. Vessels would keep away from it if they could.

Q. That depends somewhat on the harbor, does it not?—A. Yes.

Q. If it was a real good harbor of refuge, masters of vessels would like to go into it, would they not?—A. Yes.

Q. About how many months in the spring is it, after navigation opens, before this canal is in shape for navigation?—A. I cannot tell you. I have been there a good many springs when the dredge has been at work.

Q. In what time of the year?—A. Along in June.

Q. What time does navigation open there?—A. About the 10th of May.

Q. Do you know anything about the character of the ground at and about the shore line on the line of the canal?—A. It is sandy.

Q. Is it hard or soft?—A. Soft.

Q. Is there a hard-pan bottom there somewhere, and if so, where?—A. I do not know anything about that.

By Mr. McCarter:

Q. You say that this canal is only sheet-piled for that length of the canal where the banks are high?—A. I said that that was my opinion.

Q. On what is your opinion founded?—A. On my eyes.

Q. Then you speak from actual observation?—A. Yes.

Q. That is more than an opinion?—A. Yes; it is more than an opinion.

Q. In how much of the canal are the banks high?—A. I cannot tell you the distance. I never measured it and I never heard any person state it.

Q. Did you ever observe what proportion of the canal was sheet-piled?—A. I did not.

Q. Is it not in fact sheet piled at its whole length except through Lily Pond?—A. I cannot say, but my judgment is that it is not. My reason for saying so is that, running up in a steamer once, something got wrong with the engine and she went alongside of the pile which had a cap piece on the top and tore the piles all out. There was nothing left, showing that it was a very weak construction.

Q. How would sheet-piles bear the usage?—A. I did not see any sheet-piling there.

Q. Do you mean to say that there was not any there?—A. I did not see it, and if there was any there I should certainly have seen it.

Q. When was that?—A. I cannot tell you just when it was. My impression is that it was five or six years ago.

Q. Whereabouts in the canal was it?—A. I do not know what you call Lily Pond, but it was below where the high banks are.

Q. You do not know what Lily Pond is?—A. No; I do not. [Exhibiting map to witness.] The place where this happened was not sheet-piled. Something got wrong with the engine, and the vessel went alongside the piling and made fast. It pulled the whole thing out and pulled the cap piece off. There was no sheet-piling there.

Mr. Payson. What distance was that from the Lake Superior shore end of the canal?

The Witness. I cannot say.

By Mr. McCarter:

Q. Was there a cap on the piles?—A. Yes.

Q. Looking at this diagram, would you be of the opinion that it was at Lily Pond?—A. I cannot tell you. I know nothing about that diagram.

FRANCIS W. ANTHONY sworn and examined.

By Mr. MONTGOMERY:

Question. You live in Hancock, I believe?—Answer. Yes.

Q. And you have lived there for the last ten years?—A. Yes.

Q. How long have you known this canal in controversy?—A. Ever since it started.

Q. Did you help to build it?—A. Yes; I was there.

Q. When did you first help in its construction?—A. I took charge of the work in 1871.

Q. Who at that time was president of the canal company?—A. Mr. P. J. Avery.

Q. What was your position?—A. I had the general management of the whole affair to look after somewhat.

Q. Do you know anything about the sheet-piling used in the construction of the canal?—A. Yes.

Q. Do you know what lengths it was?—A. My impression is that it was 12 and 14 and 16 feet. I think that some of it was driven 16 feet in the mud.

Q. At the time that you were at work in 1871 did you have your attention called especially to the length of sheet-piling, and did you talk with anybody about it?—A. Yes.

Q. With whom?—A. With the parties who were doing the work.

Q. With the canal folks?—A. Yes; then I talked with the company in regard to the matter.

Q. What do you mean by talking with the company?—A. I corresponded with Mr. P. J. Avery.

Q. What was the subject of the correspondence?—A. I thought that the sheet-piling, at the time and in the place we were putting it, was too short.

Q. Did you so advise him?—A. Yes.

Q. Was that sheet-piling still put in?—A. Yes.

Q. Why did you think it too short?—A. I did not think it had foothold enough in the soft ground.

Q. At what part of the canal was that?—A. At what we call "the store."

Q. Inland from the store?—A. Yes; towards Portage Lake.

Q. What was the character of the sheet-piling driven along the sand banks by the shore line and thereabouts?—A. About the same.

Q. Do you know anything about hard-pan there?—A. Yes.

Q. Was it possible to drive a thin plank into that hard pan?—A. Not much about "the store." We had just struck the hard-pan when I quit. The piles would not go into that hard pan. It was almost impossible to get them in.

Q. Tell the committee whether or not that canal has ever been, since it was completed, in such a shape as that heavy laden deep-draught vessels could go through it.—A. I do not know that I can tell the committee that. I can only tell them from hearsay, for I have never been through the canal more than three or four times.

Q. What is its general and uniform reputation in that regard where you live?—A. The general reputation is that in some seasons in the spring of the year vessels have difficulty in getting through, and that

many times when there is a heavy sea on they dare not attempt to come in from the outside, even in the summer or at any time.

Q. I believe you never had any experience in building in other harbors?—A. No, sir.

Q. Do you know anything about the habit of vessels that come through the Sault Ste. Marie Canal to go back to Houghton and go around the point?—A. Yes, I have known instances of that kind since I have lived there; I cannot recollect the names of the vessels, however.

Q. Do you know why they did that; what was the trouble?—A. The trouble was that there was not water enough to float them going up through the canal.

By Mr. REDINGTON:

Q. When you were superintendent, or in charge of affairs there, had you at any time anything to do with the location of the lands in satisfaction of these land grants?—A. Some portions of them.

Q. What, if anything, did you do in that connection?

Mr. McCarter objected to this branch of the inquiry, but after some discussion the objection was overruled.

Q. What, if anything, did you do in reference to this matter for the company during the year 1871, or thereabouts?—A. I located some lands in the Menomonee district.

Q. On what information, or minutes, or records, did you do it?—A. I got the minutes of the ground from a gentleman named Buell, in Menomonee.

Q. By the minutes you mean descriptions of tracts of land which were supposed to be subject to location?—A. Yes.

Q. What did you do with those minutes after you procured them?—A. I went to the land office at Marquette and had them make a record of them there.

Q. So as to locate the lands in behalf of the company?—A. Yes.

Q. What was done at the land office?—A. The land office received those minutes after some argument about the matter. If I recollect right, the deputy (I do not think that Mr. Campbell was there), received the minutes at the time they were put in. I sent a man to the land and examined it afterwards.

Q. You said there was some objection as to the listing of the lands, or to the acceptance of the list at the time?—A. There was in the land office. I do not recollect what it was, particularly. I know that we had quite an argument about it; but they received the minutes which I presented to them, and made a record of them right there.

Q. Do you remember what the objection was which was urged against the acceptance of the list?—A. My impression is (it is a long while ago) that it was land which had been held out of market, and had been advertised for sale by the land office up there contrary to the understanding of the Land Office here. I cannot explain exactly. I think that the Secretary of the Interior had telegraphed to Mr. Campbell something to the effect that he had made a mistake; that this land was still withdrawn, and not advertised for sale.

Q. Then, after some conversation, the list was accepted?—A. Yes.

Q. And you sent some one to examine the lands?—A. Yes.

Q. Who was that?—A. I think his name was J. W. Armstrong.

Q. He examined the lands and reported to you?—A. Yes.

Q. Have you the list of the lands so entered by you at that time for the benefit of the company?—A. Yes, sir; I have the list as returned to me by Mr. Armstrong.

(The list was put in evidence and marked Exhibit 2.)

Q. In reference to this list of lands, are the tracts mentioned in it located with reference to their proximity to the canal?—A. No, sir; I think not.

Q. Are they located with reference to their existence in alternate odd sections?—A. I think not. The list itself will show that.

Q. With reference to the location of the company's lands, do you know, and if you know will you state to the committee, anything in connection with the location of 320 acres within the limits of any military wagon-road?—A. I think it is section 12 (the whole section) that the canal company, through some means or other, got hold of, and which, in my judgment, belonged to the military road grant. It was within the limits of the grant, and was an even section.

Q. Do you recollect where that land was situated?—A. I think it was in township 45, range 38, if I remember right.

Q. Do you know what the value of the land is with the pine and timber upon it?—A. I do not know what the value of it is.

By Mr. McCarter:

Q. How long did you continue in charge of the work when you took charge in 1871?—A. I had charge of it during the summer work of 1871.

Q. Do you remember the length of sheet-piling that was called for by the specifications?—A. I do not.

Q. Did you ever know?—A. No, sir.

Q. Did you have no specifications to work by?—A. When I got there this sheet-piling was all sawed, and there and in places, except in this muddy ground, it was driven as far as it could be driven.

Q. What do you mean?—A. We could not drive it any farther than that when we came to the hard-pan.

Q. Do you know that this sheet-piling, only 12 feet long, was actually driven?—A. That was my understanding of it.

Q. Did you see it?—A. Yes.

Q. Then you do know?—A. Yes.

Q. Did that piling remain, and was the canal finally accepted by the State of Michigan with that sheet-piling 12 feet long?—A. I should think so. My knowledge of the work really ceased in the fall of 1871.

Q. And the 12-foot sheet-piling had been driven in, in what part of the canal?—A. Twelve and 14 foot piling; I do not recollect the proportions.

Q. What do you mean by 12 and 14 feet piling?—A. I mean that some of it was 12 feet and some of it 14 feet.

Q. How much of it was 12 feet?—A. I cannot tell.

Q. And how much of it was driven?—A. It was driven in all the lower end of the canal to Lily Pond.

Q. Do you know how much of sheet-piling only 12 feet long was actually used?—A. I do not.

Q. Do you know how much of sheet-piling that was sawed only 12 feet long was actually driven and used in the canal?—A. I do not.

Q. Do you know that any of it was?—A. Yes.

Q. How much?—A. I cannot tell you how much, but I know that there was some of that description there.

Q. Can you not give us an idea of how much?—A. I cannot.

Q. Did you drive it?—A. No, sir.

Q. Who did?—A. Of course I was in charge of the work, but other men were driving the sheet-piling.

Q. Why did you permit sheet-piling of that size to be driven?—A. The canal company had it there, and they said that that was according to specifications. I never saw the specifications.

Q. Who was the engineer, then?—A. Mr. Forster, I think.

Q. And you say that Mr. Forster permitted sheet-piling only 12 feet long to be driven?—A. That was my opinion. They had to buy a little of sheet-piling afterwards, and I found that that was the length that was sold for driving.

Q. Is not the way you know about the length of it, by knowing the length that was sold to the canal company, and which you supposed was driven as piles?—A. No, because they had thousands of feet sawed there when I came there.

Q. Do you not know that this 12-foot sheet-piling was condemned by Mr. Forster and taken out and used to dock the piers with?—A. No I do not know that. It may have been.

By Mr. DAVIS:

Q. As to the location of these lands, you say that this is the list which Mr. Buell furnished you of certain lands in Monomonee district?—A. Yes.

Q. You took them to the land office and had them entered?—A. Yes.

Q. And you had some discussion with some deputy about them?—A. That is my impression.

Q. Who was the deputy?—A. I do not know his name.

Q. What did this deputy claim?—A. I do not recollect what he claimed. I remember that we had some discussion about the matter; that the lands had been advertised for sale, and that there was a mistake in advertising, and that the Government had withdrawn these lands again from the market as having been a mistake. That is my idea.

Q. What did you claim?—A. I claimed that even if they were withdrawn from the market, the canal company had the right to enter them.

Q. You claimed that whether they had been withdrawn or not the canal company had the right to enter them?—A. Yes, to enter any lands that belonged to the Government.

Q. You claimed that their withdrawal had no application to the canal company?—A. That was my idea.

Q. And they acceeded to that?—A. Yes.

Q. And allowed you to enter the land?—A. Yes.

Q. And that is all there is about it?—A. That is all.

Q. You say that the land was not in alternate odd-numbered sections?—A. That was my impression.

Q. Are all odd-numbered sections alternate sections?—A. There is an even section and an odd section.

Q. Then every odd section is an alternate section?—A. That is the way they claim.

Q. Do you know what the second act of Congress provided in regard to the land?—A. No, sir.

Q. Do you not know that the second act permitted the company to take sections both even and odd?—A. That was my impression, that there was a certain number of odd sections and a certain number of even ones.

Q. Fifty thousand even sections and one hundred thousand odd ones?—A. I do not recollect the amount.

Q. But you know that the company had the right to take both odd and even sections?—A. That was my understanding.

Q. Then, when you answered Mr. Redington's question as to the alternate odd-numbered sections, what did you mean?—A. Just exactly what I said.

Q. What was that?—A. That they were not regarded in the selection.

Q. Were not what?—A. That I would take the lands just as I could find them, whether odd numbered or even numbered.

Q. Did you understand that there was any law requiring you to take any even sections?—A. No, sir.

Q. Or any odd sections?—A. No, sir.

Q. Then what did you mean?—A. Just as I said, that I took odd or even sections as I pleased.

Q. You had a right to do that under the law, had you not?—A. I suppose so.

By Mr. REDINGTON:

Q. What you mean by saying that you did not regard alternate odd sections is, that you did not first take one tier of sections and then take the next tier?—A. No; I mean that when we got a good forty acres of land in one section we took it.

By Mr. DAVIS:

Q. You took it in any part of Michigan that you could find it?—A. Yes; whether 40 acres or 160 acres or a section of land.

JOHN H. FORSTER recalled.

By Mr. MONTGOMERY:

Question. What time were you charged with this work as State engineer?—Answer. In the spring of 1873.

Q. The canal was then approaching completion, was it not?—A. It had been in construction two or three years.

Q. Was any of the sheet-piling then driven, and if so, for what distance?—A. A portion of it, but not a great deal of it had been driven.

Q. Did you reject some of the 12-foot sheet-piling?—A. I did.

Q. Where was it sawed?—A. Some of it at the company's own sawmill, on the banks of the canal, near the point.

Q. Was there not some firm by the name of Godstein which sawed a large quantity of that sheet-piling and afterwards bought a little of it from the canal company?—A. I know that a man by the name of Shields sold out to Godstein.

Q. Did that firm saw the sheet-piling after you took charge of the work?—A. I am not positive about that.

Q. What became of the rejected piling?—A. Subsequently, when we decked the piers, it was used for that purpose.

Q. Then it was not returned to the party that sawed it, but you simply used it for that purpose?—A. A portion of it.

By Mr. MCCARTER:

Q. What portion of it?—A. The 12-foot portion of it, which was rejected as sheet-piling.

Q. Was any such sheet-piling driven?—A. I was not on the canal every day and was not required to be, but I came up frequently and examined the work, and my impression is that they had driven some of this 12-foot piling, but I compelled them to haul it out. But my recollection about that is not clear; although it is clear and distinct in reference to my condemning what I saw on the banks.

Q. In reference to the extent of sheet-piling as compared with the length of the canal from end to end, how much sheet-piling was there?—A. It was all sheet-piled except through Lily Pond.

Q. How long is that?—A. That is about 1,000 feet long.

Q. Did the specifications call for sheet piling through that part of the canal?—A. I do not recollect now. Lily Pond was originally a deep lake, and we found a water space there with 10 feet depth of water. Most of it was covered with grass and water under the ooze. When I came to examine it I found that sheet-piling there would be of no use. I found that any piles mentioned in the specification for that purpose would be no good there, and I had to order piles from 35 to 40 feet in order to go through the ooze and to strike the clay on the bottom. There was no dimension of piles that was specified and no sheet-pilings specified that would do any good there, it being comparatively deep and muddy water. I therefore had piles driven closely together on the west side (which was the landing side) and on the other side I drove the piles and put in longitudinal timbers and cross-ties and left it in that shape. On the east side there was from 10 to 15 feet of water in the natural lake or pond.

Q. How did the arrangement which you did adopt compare, as to usefulness and durability, with the sheet-pilings?—A. Practically, it was as good as any part of the canal. There was no high bank there, and there was no sand to come in; nothing to clog the canal.

Q. The piles which you condemned, and which were afterwards used in decking the piers—why were they condemned?—A. Because they were too short.

Q. Because of their not being over 12 feet?—A. Yes.

Mr. MONTGOMERY. If there were any 12 foot piles used, they were certainly unfit to be used.—A. Yes; they were not according to the specifications. I have no knowledge of their being used.

PETER R. GODSTEIN sworn and examined.

By Mr. MONGOMERY:

Question. Where do you reside?—Answer. At Houghton.

Q. What is your present business?—A. Manufacturer of mining candles.

Q. Did you hear the testimony of Mr. Forster just now as to the sheet-piling?—A. Yes.

Q. Did you once engage in the business of sawing sheet-piling?—A. Mr. Strader and myself did.

Q. You succeeded in that business a man named Shields?—A. Yes.

Q. At what time?—A. I think in 1871.

Q. Did you saw sheet-piling for the canal company?—A. Yes.

Q. What quantity of it?—A. Mr. Shields had a contract for all the sheet-piling that was to be used at the canal, and we bought him out. We bought out his saw-mill, and we sawed all the sheet-piling that was required for the canal company.

Q. How many thousand feet a day were you in the habit of sawing for the canal company?—A. We sawed from 14,000 to 16,000 feet a day.

Q. Of what lengths?—A. To the best of my recollection, from 12 to 16 feet.

Q. What kind of timber was it?—A. It was 4 by 10, I think.

Q. That is, 4-inch plank by 10 inches wide?—A. Yes.

Mr. MONTGOMERY. Do you know the proportions of the different

lengths that you furnished; what proportions of 12, what of 14, and what of 16?

The WITNESS. I do not.

LUKE WELSH sworn and examined.

By Mr. MONTGOMERY:

Question. Where do you reside?—Answer. Houghton.

Q. Have you lived there during the past fourteen years?—A. Yes, sir.

Q. Did you do work on this canal at the time of its being constructed?—A. Yes.

Q. What did you do?—A. Craning on the dredge.

Q. Tell the committee, how many feet wide did they dredge it to the extreme depth that they went?—A. About 80 feet.

Q. That is, you dredged the bottom of the canal over a surface of 80 feet wide?—A. Yes.

Q. How much water was left in the canal over that surface?—A. We used to dig in order to make 12 to 13 or 14 feet of water, but when we would move ahead, we would probably leave about 11 or 12 feet of water.

Q. Tell the committee whether this canal, so far as you know, has answered the purpose of navigation for the vessels that navigate those lakes there.

The WITNESS. Do you want me to tell you what I know of my own knowledge, or what I have heard from other parties?

Mr. MONTGOMERY. Both, if you please.

Mr. PAYSON. First tell us what you know of your own knowledge, and then what you know from other parties.

The WITNESS. When I left the canal in the fall of 1872, it was not navigable for any deep-draught boat.

Q. And that was a year before it was claimed to be completed?—A. Yes.

Q. How was it afterwards?—A. All that I know about it afterwards is by hearsay.

Q. What is the general and uniform reputation of that canal among the people about Houghton and Hancock as to its capability for furnishing a proper ship canal for the purpose of commerce on the lakes up there?—A. It is not considered navigable in stormy weather.

Q. For how many years has that been so?—A. It has always had that reputation—ever since I have heard anything about it.

Q. Do you know of your own knowledge whether deep-draught vessels heavily laden ever attempt to make the channel in rough weather?—A. I do not know.

Q. Do you know what the general reputation on that subject is?—A. Yes; I have heard talk about it.

Q. What is the reputation on that subject as to whether deep-draught vessels attempt to make the channel or not in rough weather when they are heavily laden?—A. When it is blowing from the northwest there is a big sea in there, and there is not water enough to make the harbor with safety.

Q. Do you know the tug Mathan?—A. Yes.

Q. Do you know the engineer of that tug?—A. I do.

Q. Have you ever talked with him on the subject of the capacity of this canal to permit that tug to pass through?—A. Yes.

Q. What is the name of the engineer?—A. Fred. Bonchemin.

Q. What was the captain's name?—A. Cook.

Q. Do you know anything about what trouble that tug had to get

through the canal?—A. Nothing more than what I heard from Bonchemin, the engineer.

Q. Tell us what he told you?—A. He told me that whenever they were loaded down, drawing 12 or 12½ feet of water, if there was any sea running, they would sometimes pound the bottom, and when the sea would lift the vessel, they would nearly tip over.

By Mr. McCarter:

Q. You left the canal in the fall of 1872?—A. Yes.

Q. Can you say that in the fall of 1873 that canal was not 100 feet wide from end to end?—A. No, sir.

Q. Can you say that it was not 13 feet deep from end to end?—A. No, sir.

Q. Where did you go when you left the canal?—A. I went to Houghton.

Q. Have you been there ever since?—A. Yes.

Alfred P. Swineford sworn and examined.

By Mr. Montgomery:

Question. You live at Marquette, Mich.?—Answer. Yes, sir.

Q. You are editor and proprietor of the Marquette Mining Journal?—A. Partially so.

Q. You are the commissioner of mining statistics in the State?—A. Yes.

Q. How long have you lived there?—A. Since the spring of 1868.

Q. Do you remember the construction of this canal?—A. I remember something concerning it.

Q. Was it commenced before you went to Marquette, or since?—A. My recollection is that something was done on the work before I went to Marquette. I lived in the Lake Superior country a year before. I think that some work was probably done on the canal in 1867 in preparation for going to work on it.

Q. Have you been engaged in the business in which you are now engaged ever since you have lived at Marquette?—A. Yes.

Q. Have you been familiar with this canal in late years?—A. I have been through it quite a number of times.

Q. Do you know what is its reputation among vessel men as to its capability and safety for the purposes of navigation?—A. Yes.

Q. State what that reputation is?—A. In a general way its reputation is all against the canal as to capacity to meet the requirements of the commerce of the lakes. I know this simply by conversation with the masters of vessels.

Q. Is the reputation that you speak of uniform, or is it disputed to your knowledge?—A. I never heard it disputed by anybody till I came here.

Q. Do you know anything about the lands of the canal company?—A. No, sir.

Q. You know generally where they are located, do you not?—A. Yes.

Q. Do you know in a general way what the 400,000 acres selected by the canal company were estimated to be worth?

Mr. McGowan asked whether it was considered that that question was material.

Mr. Payson said that if the canal company was entitled to the lands, it was entitled to them, no matter what they were worth.

By Mr. McCarter:

Q. How far is Marquette from this canal?—A. About 100 miles by rail or water.

Mr. Montgomery stated that he had no further proof to offer except what would be clearly cumulative. He would be glad, however, to produce three or four or more masters of vessels who could tell from practical experience whether or not this canal has served its purposes from the commencement to the present time. Aside from that he had no further proof excepting this: Mr. Redington, his associate, had entire charge of the land branch of the case, and was having prepared a summary, which they expected to make complete and exhaustive, as to the situation of the lands at the time they were located. This they were preparing with the view of showing to the committee just how many thousand acres of land were nearer the canal than were the lands selected by the canal company. That had reference to the first grant as well as the second grant. It would take some time to prepare that summary, because it was an exhaustive and elaborate proceeding. They would be glad to furnish this proof at any time that would be convenient to the committee and his friends on the other side.

Mr. Payson said the committee desired to hear anything which either side had to offer.

Mr. McCarter said that so far as respected the evidence of captains or seafaring men, as to what they experienced in actual disturbance or hinderance in the navigation of the canal, he had no objection to having that evidence offered.

Mr. Redington said that they desired at such convenient time as the committee might fix to summon a number of such witnesses.

Mr. McCarter suggested that he had not expected the committee should adjourn for that purpose.

Mr. Payson requested Mr. Redington to state exactly what he proposed.

Mr. Redington. We propose, at such convenient time as may be fixed by the committee, to subpœna a number of such witnesses—captains and masters of vessels—as have been in the habit for years of navigating that lake, and who will testify to facts concerning the canal, as to its feasibility and usefulness in navigation.

We propose further, at that convenient time (to be fixed by the committee), to submit to the committee the full proof as to the location of those lands. As has been suggested by my associate, Mr. Montgomery, this is a matter which requires great detail in examination. The committee will recollect that this northern peninsula of Michigan is intersected by a large number of grants, and is a perfect network of withdrawals, releases, and all that sort of things. To ascertain and report here, so that the committee can intelligently understand the position of affairs (just what land was subject to location at the time the location was made), is a matter of extensive, laborious, expert examination. That examination is now going on, and we will complete it at the very earliest possible day and within such time as may be fixed by the committee. Then we propose to call some witnesses, both from the land office at Marquette and from the General Land Office here, and to call our own experts, to show the committee what that situation is.

In that connection we desire Mr. Campbell, and until that time I want him held as a witness.

Mr. Payson. So far as oral proof is concerned, why are not the witnesses here?

Mr. REDINGTON. Oral proof will be necessary in respect to these lands, but not in advance of the summary we are preparing.

Mr. PAYSON. I mean the one proof on the part of these lake captains and navigators. Give us the names of the witnesses whom you want, and whom you expect you will have as to specific facts.

Mr. REDINGTON. We offer to prove by the following witnesses: Capt. C. B. Chatterson, of the India; Capt. Angus McDougall, of the China; Capt. N. Niland, of the Japan; Capt. Samuel Shannon, of the Nyack; Capt. Ed. Mooney, of the Winslow; and Capt. L. McIntire, of the Peerless—captains or masters of vessels navigating the upper lakes—that since 1873 the Portage Lake and Lake Superior Canal has not been navigable for deep-water vessels as a canal 13 feet in depth; that the ordinary and almost universal practice of navigators on the lakes is either to lighten the load before entering the canal, in order to get through, or to pass around Keweenaw Point, avoiding the canal altogether, and that that has been true from 1873 up to the present time.

We also offer to prove by expert testimony, and from actual and critical examination of the records in the local land office at Marquette, and in the General Land Office at Washington, that the selection of lands made in satisfaction of the two grants to the State of Michigan, for the benefit of this canal, were in a large part made on land not subject to selection under these grants according to the terms of the statute —both in regard to the first 200,000 acres grant and in regard to the second 200,000 acres grant.

We further offer to prove that the lands so illegally and improperly selected were worth a large amount of money, estimated at from five to fifteen millions of dollars.

We offer to prove all of the above, at such convenient time and in consecutive sessions as may be fixed by the committee.

Mr. PAYSON. Commencing at what time?

Mr. REDINGTON. Commencing not earlier than ten days from the present time.

Mr. Van Eaton suggested that Mr. Redington should go on and state that the witnesses by whom he proposed to prove all this had not been summoned, and would have to be summoned yet, and to come here from Michigan.

Mr. McCarter suggested that Mr. Redington should also state why they had not been summoned before.

Mr. VAN EATON (to Mr. Redington). That is a fact, is it not?

Mr. REDINGTON. No; we have three witnesses here whom we could use now in reference to the location of the lands.

Mr. VAN EATON. Then you have not to send for any witnesses at all?

Mr. REDINGTON. Certainly; we must subpœna these ship captains.

Mr. PAYSON. As a matter of fact, have any of them been subpœnaed?

Mr. REDINGTON. No subpœnas have been served on any of them. We attempted to find one or two of them and could not find them.

Mr. PAYSON. And they are all engaged as navigators on the upper lakes.

Mr. REDINGTON. Yes; but navigation has not been opened yet, and they are now in winter quarters.

Mr. PAYSON. Where do they live?

Mr. REDINGTON. In Buffalo, Cleveland, and Chicago.

Mr. McCarter said that, as to the value of the lands, it seemed to him, for obvious reasons, that that question was irrelevant, because if the lands belonged to the canal company it made no difference whether they were worth more or less. With that exception he had no manner of ob-

jection to the other side going into the proof as to the selection of the lands, or as to the condition of the canal, if they were now prepared to make that proof; but he would remind the subcommittee and the counsel on the other side of the course of proceeding in this case. When the committee first determined to go on with this examination, it was proposed to commence on the following Tuesday, but then, at the suggestion of Mr. Swineford, as to their inability to get witnesses ready by Tuesday, Friday the 28th had been fixed by the committee for the commencement of the proceedings, and without any suggestion on Mr. Swineford's part that there would be the least difficulty as to getting his witnesses ready for that day. The canal company had obtained the attendance of its witnesses for Friday, and had gone on (even out of order) and opened and proved its case, or a portion of it, on the question of the construction of the canal. The matter had then been adjourned until Monday morning, with the assurance that Mr. Swineford would be present on Monday. About an hour had been occupied by the committee on Monday, and yesterday the committee had gone on until a question had been raised which had to be submitted to the full committee. Then they had gone on to-day, so far as proof was concerned relating to the sufficiency of the canal, and they had now this remarkable result: that Mr. Swineford had gone to Michigan, and instead of producing men who knew anything actually as to the condition of the canal (which was the first thing that would occur to any lawyer and to every man of sense), he brought on a number of witnesses who testified to the general reputation of the canal in the neighborhood, not as to whether it was a 100 feet wide and 13 feet deep, but as to whether it answered the general purposes of navigation of the lakes. This session of the committee had been taken up with proof of that kind; and now the most astonishing proposition was made to permit the other side to send for a batch of other witnesses to prove the very thing which they should have attempted to prove in the first place—that is, the actual hinderances and obstructions which captains experienced at this canal. Having omitted to do that, having made no effort to get that class of witnesses, and having exhausted their privilege, they now ask the committee to adjourn, and permit them to go off with new subpœnas to bring in witnesses who should have been brought in in the first place. The chairman of the full committee had given notice to parties that when the proceedings commenced on Friday they should be expected to be ready to go on from day to day. It seemed to him to be trifling with the committee, and to be a complete disregard of every rule laid down by the committee in the first instance to ask this postponement.

In addition to that, it was exposing the canal company and exposing the Government to very great expense and trouble. The canal company had witnesses here whose testimony would be in rebuttal of the proof which might be expected to be put in by those sea captains and others. If the matter were to be postponed for ten days longer, these witnesses would have to go home and be subpœnaed again at the expense of the Government. He was entirely unacquainted with the practice of Congressional committees in such matters, but he thought that the proposition was in violation of every rule of propriety and of every rule of practice. Every opportunity had been given to the parties on the other side; if they had suggested that there was a class of witnesses who could not be got by last Friday, the committee might have acceded to their desire and postponed the case; but there was no suggestion of the kind made.

The witnesses whom Mr. Swineford had expected were here, and they

had been used, and now, when the result of their testimony was ascertained, it seemed to him to be totally in violation of every rule of correct practice, and every proper consideration, to permit them (at large public expense and private expense) to have further time. The canal company and its counsel ought not to be asked to dance attendance here from day to day simply to enable those people to experiment in getting witnesses.

Mr. Montgomery said that he did not understand, as his learned friend on the other side seemed to understand, that this investigation was in any sense like a trial in a court of justice. He was aware of the fact that a man that goes into court with his witnesses is expected to finish his case or else be nonsuited; but he did not think that that was the case in a Congressional investigation in which counsel and parties had no possible connection more than the committee itself had. There was going on now, at the other end of the Capitol, an investigation which had been going on since the commencement of the session, and would probably go on to the end of the Congress.

Mr. PAYSON. Or until the appropriation is exhausted.

Mr. Montgomery assented to the suggestion, and said that there ought to be a difference between the trial of a case in court and an investigation before a Congressional committee. Mr. Swineford was here, 2,000 miles from home, and had brought witnesses the same distance. It could not be expected that, after witnesses were put upon the stand and examined, the case should be closed immediately. He asked his friend on the other side whether he had ever heard of witnesses 2,000 miles from court being expected to get there on the day fixed, and to have the case submitted. They had only had a short time to try a case involving millions of dollars. His friend on the other side had said that he could not see any possible view in which testimony as to the value of the lands was important, but he (Mr. Montgomery) submitted that if the committee should be satisfied that this canal was not properly constructed, it might be suggested that, even if the lands were not properly selected, their value was too small to justify so much time being taken up in the matter. But he understood, however, that they would be able to show that these lands, wrongfully taken from the Government, were not worth less than $5,000,000, and he thought that was a matter which ought to be looked into with some gravity. His learned friend had misapprehended another thing, or else he had done so. They had not got through when it was shown that the canal was 100 feet wide and 13 feet deep. The other side must show that they had built a canal, not a hole in the ground, or a ditch, but a canal with all that the term implied, a harbor and breakwater. If the canal company had dug the canal (a canal 100 feet wide and 13 feet deep) and had left it so that it would fill up next day, that was not a canal within the meaning of Congress. His friend, Mr. McCarter, had said that the whole question was whether there had been a canal built 100 feet wide and 13 feet deep. He agreed that that was so provided, that it was understood what a canal was, with all the proper accompaniments and protections to make a ship-canal a breakwater and harbor. He hoped the committee would not think that there was any attempt on the part of himself or associate to trifle with the committee. There was no fun about it, no trifling about it. They had had to send 2,000 miles for the proof which they submitted, and they offered to send and get further proof. He submitted that it was worth the while of the committee to give them at least one day's more session in order to make their proof complete.

Mr. McCarter said that, in regard to the matter of the lands, he had been prepared to go thoroughly into the whole question of the location of the lands, and as to that location being in compliance with the legal requirements of the act of Congress.

Mr. Swineford said that he would like to make a statement in regard to the supœnaing of witnesses. He had a very serious objection to being placed in the position of a plaintiff in this case. He was not so by any means. It had been his intention to secure those witnesses, and he had subpœnas for these lake captains, or a portion of them, but he had been taken ill at Marquette, and all the work which he had done in subpœnaing witnesses he had done while he should have been on his bed at home. He had found it impossible to get back earlier than Sunday, and he had telegraphed that fact to one of the members of the committee. Consequently he had thought it best not to stop to look up the other witnesses. He had been told that probably the investigation would not commence until Monday, owing to the absence of the chairman of the subcommittee, who had been called home at the same time that he had himself started for Michigan.

Mr. Payson said that there seemed to be two questions presented. The one as to the location of the land was a matter of record; and, so far as delay was concerned in order to get an epitomized statement of the records, that delay would probably not impose any particular inconvenience on anybody. But on the question of fact as to the sufficiency of the canal, it seemed to him that there ought to be a little more showing for a delay in that respect. He asked Mr. Swineford whether he had had any conversation himself with the lake captains whom he proposed to summon.

Mr. SWINEFORD. Yes; but not since the investigation commenced.

Mr. PAYSON. With which of them have you had conversation?

Mr. SWINEFORD. With several of them, but more particularly with Captain McQueen, of the Peerless.

Mr. PAYSON. What do you expect to prove as a matter of fact by Captain McQueen?

Mr. SWINEFORD. I expect to prove by him very positively that the canal is never deep enough for his vessel to go through with more than half a cargo; that there has not been any time since they claim a canal was completed when that vessel could pass through loaded; and that the canal is totally inadequate to the requirements of the commerce of the lakes.

Mr. PAYSON. When did you have any conversation with him as to specific details in that matter?

Mr. SWINEFORD. I have had several conversations with him.

Mr. PAYSON. How recently?

Mr. SWINEFORD. One last summer.

Mr. PAYSON. If the proof is purely cumulative, I do not think that the case should be postponed.

Mr. SWINEFORD. The testimony of these gentlemen will be positive.

Mr. SHAW. You say that this canal has not answered the purposes of commerce. It strikes me that the question under the act of Congress is whether it was 100 feet wide and 13 feet deep. It may have been a hundred wide and 13 feet deep, and yet not have had deep enough water to let through the class of vessels that you speak of.

Mr. SWINEFORD. I mean to say that the canal was not 13 feet deep, for the simple reason that no boats drawing over 12 feet of water can get into Lake Superior, although such a boat can pass through the

Sault Ste. Marie Canal, which has only 12 feet of water over the miter-sill.

Mr. Payson asked Mr. Montgomery whether he had any witnesses whom he wished to offer in rebuttal.

Mr. Montgomery said that he had, if the case on the part of the movers was closed now. Then he would offer some testimony on the question of construction.

The committee adjourned until 10 to-morrow, in order to submit to the full committee the motion for a postponement.

WASHINGTON, D. C., *April* 3, 1884.

The full committee met in executive session to consider the application for delay made yesterday by Mr. Redington.

After the doors were reopened

Mr. OATES (acting chairman) said:

GENTLEMEN: The subcommittee informed the full committee of the application on the part of the movants in this investigation for a delay or postponement of at least ten days in order to obtain the testimony of captains of vessels to the effect that, since 1873, since the acceptance of the canal, vessels passing through the canal would pound or strike bottom.

The committee regards that evidence as cumulative merely of the evidence already in touching the condition of the canal subsequent to the time of its acceptance; and the committee has therefore unanimously declined to grant that extension.

The hearing by the subcommittee was resumed.

CHARLES D. BLANCHARD recalled.

By Mr. DAVIS:

Question. You told us yesterday that there were two styles of construction of boats used on Lake Superior, one style flat bottomed, and the other sharp, did you not?—Answer. Yes; I believe so.

Q. The vessel that is built sharp sinks farther in the sea, does it not, than a flat-bottomed vessel?—A. She will draw more.

Q. Is the Empire State a sharp vessel?—A. The Empire State, the Badger State, and the Nyack, are sharp vessels, and the Peerless is a medium vessel.

Q. And most of the other vessels were flat-bottomed vessels?—A. So termed; yes, sir.

Q. Coming into Portage Lake harbor from Lake Superior in a gale of wind, how much water ought a vessel to have under her in an ordinary gale of wind, if she draws 12 feet of water?—A. She ought to have under her from 4 to 6 feet.

Q. Depending upon whether she is flat bottomed or sharp?—A. Yes; somewhat.

Q. With that depth of water under her, she ought to come in drawing 12 feet?—A. Ordinarily; yes sir.

Q. Suppose you have an extraordinary gale of wind, how much water ought a vessel drawing 12 feet to have under her?—A. She ought to have more than that probably. As far as depth of water is concerned, she would come in with 5 feet of water under her, but there is more or less danger attending the entrance to all harbors of that description.

Q. Is there not more or less danger attending the entrance into harbors of any description?—A. Yes; but more so in a piered harbor.

Q. Harbors are all piered, are they not?—A. No, sir.

Q. What other kinds of harbors are there?—A. The one at Marquette is not a piered harbor.

Q. That has a pier running out?—A. It is a breakwater. What you mean is two piers, one on each side.

Q. You mean to say that, if the land makes a curve and a pier is built from that curve beyond it into the lake, there is less danger in getting around that pier than there is in going in between two piers?—A. Yes.

Q. In other words, the wider the entrance to a harbor is, the easier of access?—A. Undoubtedly.

Q. Then, in a gale of wind a vessel should have 4 feet of water or more beyond her draught?—A. It would depend somewhat upon the size of the vessel; she should have from 4 to 6 feet.

Q. And in an ordidary gale of wind she should have 5 feet of water under her more than she draws?—A. That would be an average, anyway, between 4 and 6 feet.

Q. That is your answer?—A. That is my answer.

Mr. REDINGTON (to Mr. Davis). Does this question refer to the depth of water at the extreme entrance to the piers?

Mr. DAVIS. It does.

Mr. McCARTER (to Mr. Montgomery). Have you any other witnesses as to the construction of the canal?

Mr. MONTGOMERY. No, sir.

Mr. McCARTER. Then, under the ruling of the chairman of the full committee, the case on that subject is closed.

R. P. MULOCK recalled.

By Mr. McCARTER:

Question. How much sheet-piling had been driven between Lily Pond and the store that has been spoken of, before you came to superintend the work of the canal?—Answer. I think there may have been perhaps from 600 to 700 feet driven on each side of the canal—that is, from the machine shop up towards Lily Pond.

Q. What means have you of knowing, if any, as to whether any of that sheet-piling that was driven before you came there was as short as 12 feet in length?—A. I have no means of knowing it.

Q. After you came there, what was the length of sheet-piling that was driven?—A. We drove nothing else than 16 feet.

Q. One of the witnesses, Mr. Anthony, spoke about a place where there was hard pan, and where it was impossible to drive sheet-piling through. How did you deal with that portion of the ground where the hard pan was?—A. That portion of the ground on both sides of the canal was blasted out by dynamite.

Q. For what purpose?—A. To deepen it.

Q. To get the requisite depth in order to enable the piles to go down?—A. Yes.

Q. What use was made by the company, so far as your knowledge extends, of the 12-foot sheet-piling that has been spoken of, and what disposition did the company make of the part of it which it did not use?—A. That which was used was used for decking over the outside of the piers—covering them over. There was a great amount in excess of that, and that was taken away and sold. It was loaded on a schooner by Mr. S. L. Smith's direction.

Q. Mr. Williams testifies that he saw on a scow tending on the dredge on one occasion, a large bowlder. Can you give the committee any information as to how bowlders and foreign matters of that character can have got into the canal, or into the harbor between the piers?—A. I think that the ice was the means of bringing them in there.

Q. What do you know about the fact of their being brought in by ice?—A. All that I know of it is from other places. I do not know of any being brought in there by the ice; but I should judge that to have been the way in which they were brought in.

Q. What do you know about ice moving rocks in other places?—A. Below the Sault Ste. Marie I could see it every spring. You will find a channel where there are no bowlders this year, and where, next year, bowlders will be found.

Q. How do they get there?—A. I presume they are frozen fast to the ice, and when the ice floats away, it carries the bowlders in it until the ice melts, and the bowlders are deposited.

Q. How do you know that actually?—A. I do not know of any actual fact of the kind, but I have read of vessels running on rocks there, and getting on stones.

Mr. VAN EATON. You mean to say that you cannot account in any other way for those rocks being deposited there?

The WITNESS. No, sir; I cannot.

By Mr. MCCARTER:

Q. What is the object of sheet-piling along the canal?—A. I presume the object is to keep the outside sand from working into the canal.

Q. Does it serve for any other purpose?—A. Not that I know of.

Q. Of what use would it be where there was no sand or sifting matter to get through?—A. It would be of no use at all, unless there was something to be kept out.

Q. Look at map Exhibit N [showing it to witness], and tell us where the 600 feet of sheet-piling, that had been driven when you came there, was situated?—A. From the machine-shop north perhaps 600 or 800 feet.

Q. The machine-shop is how far from the Portage Lake entrance?—A. Possibly 400 feet.

Mr. DAVIS. Then the sheet-piling which was driven before you came there commenced 400 feet before Portage Lake entrance, and ran in 600 feet?—A. Yes; on both sides of the canal.

Mr. PAYSON. Lily Pond is south of Portage Lake?

The WITNESS. Yes, sir.

By Mr. DAVIS:

Q. What is the character of the soil on each side of the canal at Lily Pond, and was there any occasion for sheet-piling there?—A. Very little. There was nothing to come into the canal there. The digging was mostly through logs and brush, and all sorts of rubbish that had accumulated there.

Q. Was there any use of sheet-piling above there for a great many feet between the end of the piling that was driven before you came, and for some distance towards Lake Superior?—A. No, sir; none whatever.

Q. For how many feet was there no use of sheet-piling?—A. Perhaps 300 feet.

Q. From where the sheet-piling entered, that was driven before you came, on towards Lily Pond, for how many feet was it unnecessary to drive sheet-piling at all?—A. I should suppose all of 300 feet.

Q. But, nevertheless you did drive sheet-piling there?—A. Not all the way.

Q. Where not all the way?—A. We drove it up to Lily Pond, but not on the east side.

Q. On Lily Pond you made a line of docks?—A. On the west side there was a close row of piling.

Q. Do you agree with Mr. Forster that that close row of piling was better than sheet-piling?—A. Yes; we could not get sheet-piling long enough to go in there.

By Mr. MONTGOMERY:

Q. Be good enough to summarize about where the sheet-piling was not driven. Commencing with Lake Superior and coming south, where was the first omission of sheet-piling?—A. There was no sheet-piling driven above Lily Pond at all, that is, going north.

Mr. PAYSON. Do you mean piles, or sheet-piling?

The WITNESS. Neither. There were a few piles driven opposite the store, but they had to be taken out again, every one of them.

By Mr. MONTGOMERY:

Q. How are the banks protected between the store and Lake Superior?—A. By piles and sheet-piling.

Q. What part of the distance between Lily Pond and Lake Superior is protected by sheet-piling?—A. All the distance.

Mr. Davis remarked that there was no sheet-piling through Lily Pond.

Q. Then I understand you to say that from Portage entry clear to the shore of Lake Superior there is sheet-piling on both sides of the canal all the way, except through Lily Pond?—A. No, sir.

Q. At what other point is the sheet-piling lacking?—A. It is lacking on the east side of Lily Pond, commencing at where Lily Pond ends, the sheet-piling commences and goes through.

Q. On both sides of the canal?—A. Taking the east side first. It goes clear through to Lake Superior. On the west side it is sheet-piled from the entry at Portage Lake up to Lily Pond.

Q. On both sides of the canal?—A. Yes. And then there is a close row of piles on the west side until Lily Pond ends again. The sheet-piling commences and goes through.

Q. Then, to summarize. You say that both sides of the canal are sheet-piled all the way except through Lily Pond?—A. Yes.

Q. And there sheet-piling is omitted on one side only?—A. Yes.

Q. And long piles are driven in there?—A. On the east side; but on the other side there is only docking.

By Mr. REDINGTON:

Q. Then one side of Lily Pond was not sheet-piled?—A. No, sir.

Q. And all the rest of the canal, on both sides, was sheet-piled?—A. Except that portion of it that was driven with a close row of piles, what we term the "turn out."

By Mr. MONTGOMERY:

Q. Are there banks along where that close row of piling is?—A. No, sir; there are no banks there.

Q. The piles are driven right in the water?—A. Yes.

Q. How deep is the water where they are driven?—A. They are driven in 15 or 16 feet of water.

Mr. REDINGTON. What is the distance from Lily Pond to the entrance at Portage Lake?

The WITNESS. I cannot say; I should judge about 400 feet.

Mr. Davis stated that Lily Pond commenced 6,700 feet from Lake Superior and ended 8,500 feet from it; that Lily Pond was 1,800 feet long, and that it was 3,500 feet from the end of Lily Pond to Portage Lake.

By Mr. REDINGTON:

Q. I understand you to say that, from the end of Lily Pond to Portage Lake, there was sheet piling on both sides of the canal going south?—A. Yes.

Q. What is the character of the banks on each side of the canal from the end of Lily Pond to Portage Lake?—A. There are really no banks there. It is level with the water. We had to build a road around there. It is all swamp.

Q. Then the high sand banks are between Lily Pond and Lake Superior?—A. Yes; further up.

By Mr. MONTGOMERY:

Q. You told Mr. McCarter that when you struck the hard-pan you blasted it with dynamite?—A. Yes.

Q. How did that help you; did you do that to soften the ground?—A. No; but we blew it all to pieces so that we could dredge it and get at the bottom.

Q. How were the piles fastened?—A. They drove pretty well after the blasting.

Q. I understood you to say that you used no sheet-piling of less length than 16 feet?—A. No, sir.

Q. After you went on the work?—A. After I went on the work.

Q. Did you understand from the testimony of Mr. Williams in what part of the canal it is claimed that the bowlder was found?—A. I think he said that it was right between the piers.

Q. And about what distance from the mouth of the canal?—A. I understood him to say that it was about midway.

Q. Do you think it probable that the bowlder ever got in there with a drift of ice?—A. I think it is very probable, and possible, too. Of course, I do not know whether it was brought in there by the ice; but I know that there was every chance of its being brought in there by the ice.

Q. Did you ever know any ice to float into the canal from the outside?—A. It comes in, and goes out again.

Q. Did you ever know an iceberg of sufficient size to carry a bowlder of that size to float into the canal?—A. No, sir; I never saw one.

Q. Do you not think it highly improbable that that bowlder floated in there with a cake of ice?—A. No, sir; I do not think it improbable at all.

By Mr. DAVIS:

Q. You say that through Lily Pond, on the east side of Lily Pond, you drove piles without any sheet-piling?—A. Yes.

Q. Lily Pond is a lake?—A. Yes.

Q. With considerable water in it?—A. A good deal.

Q. And you drove piles down on the east side in deep water?—A. Yes.

Q. Simply to mark the line of the canal?—A. That was all.

Q. And the water flows into Lily Pond through those piles?—A. Yes.

Q. How much water was there on the other side of the piles in Lily Pond?—A. A good deal of water.

Q. As much as 8 or 10 feet of water?—A. Yes; more than that. In some places there was half an acre of water.

Q. Did your work boats lie around in Lily Pond?—A. No; we used to have them lie in the sand cut.

Q. Where the water was shallow in Lily Pond you put in sheet-piling; and where the water was deep you put in a row of piles?—A. That was all that was done there.

JOHN H. FORSTER recalled.

By Mr. MCCARTER:

Question. State to the committee what you know about the method of driving the sheet-piling in the hard-pan. Did you hear Mr. Anthony's testimony about there being some hard-pan there?—Answer. Yes.

Q. What do you know, if anything, about the method of driving sheet-piling through that material?—A. As I stated in my first testimony, there was hard-pan near the mouth of the canal for a considerable distance up—several hundred feet. When they dredged there the dredge could not make any impression upon it. Finally, under the second administration of that canal, I had permission to exercise my own skill in remedying that hard-pan difficulty. I brought up two miners with drills, and drilled a great many holes in the bottom of the canal, and blew the thing up. We opened the channel in that way. Afterwards, when difficulty was found in getting down those piles, the same process was used more or less; to what extent I do not know.

Q. What knowledge have you on the subject of rocks or bowlders being transported or moved by ice?—A. I have never seen them actually moved; but I think they are moved by ice.

Q. What makes you think so?—A. There are devious channels throughout Ste. Marie's River which are marked by the United States Government every year with red and black buoys, by which vessels navigate that river. It is a river that is very difficult of navigation. I remember that for a great many years the Government had divers there taking out bowlders. I have seen bowlders taken out of the regular channel of navigation. I have seen them on the scow, and I have seen them brought up. I was once going down the river on the steamer Arctic, and as we neared a reach of the river called "Sailor's Encampment" the captain said, "I am very much afraid of striking in going through." As I had been for several years connected with the Government, the captains of steamboats generally invited me into the pilot-houses. I had helped to survey the river myself, as a Government officer. I had been there more or less since 1846, and knew all the captains. When the captain said to me that he feared to go through, I said, "Here is the regular channel." He said, "Yes; but the Pacific on her last trip struck on a bowlder right in mid-channel, and had a hole knocked in her." As we got past that critical point the captain said, "There, I am glad we are out of that," and we held on in the regular channel. But the first thing we knew right in mid-channel was a bump which lifted the boat right up. She had struck a bowlder, and fortunately it was right upon her keel, and no damage was done.

Q. What was the nature of the bottom there?—A. Smooth, gravelly; pretty hard bottom.

Q. How did the bowlder get there?—A. I do not know, only I think. You may see bowlders, or "nigger heads," as we call them, on each side of the shore. The ice freezes there solid in that country, and it is probable that the ice has encased these bowlders, and when spring comes the ice moves on, and as it melts the bowlders drop.

By Mr. PAYSON:

Q. That is the same theory, is it not, on which bowlders are accounted for on the prairies of Iowa and Kansas?—A. Yes; the same glacial theory. I never saw bowlders drop off in that way by my own observation. At another time I was Government engineer at Nebeesh Rapids on the Ste. Marie River. It is very narrow there, and while in my tent I have often heard vessels when passing down knock a bowlder off the precipitous side of the channel. That was on the Canadian side of the river, and the Canadian Government had dredged there for several years, and has sent divers down taking bowlders out. There is a large accumulation of bowlders to-day on the bank that were taken out at that point.

By Mr. REDINGTON:

Q. The Ste. Marie River is a very rapid river, is it not?—A. Yes; at some points.

Q. I mean that it is very rapid at the falls.—A. Yes.

Q. In what position, in reference to the site of the falls, was the bowlder which you spoke of, encountered by this boat?—A. About 30 or 40 miles below Nebeesh Rapids, at a reach of the river called Sailor's Encampment.

Q. When the season opens in the spring, is there not an immense rush of ice from Lake Superior into the St. Marie River, and down to the Ste. Marie Falls to the place which you speak of?—A. I never have been there in the spring, but naturally there is such a rush of ice. How much the Ste. Marie Falls crushes up the ice going over the rapids, I cannot say.

Q. It is a fact, is it not, that the river at Ste. Marie Falls is a very rapid river?—A. Yes.

Q. How great is the descent in the river at that place?—A. About 19 feet to the mile.

Q. And, necessarily, in the spring when the ice breaks up, large quantities of it would come down over those falls?—A. Yes.

Q. And would thence float down the river until it is finally melted?—A. Yes; if it did not strand on the shore.

Q. As to the character of the bottom of the shore around Ste. Marie Falls, is it not very rocky?—A. Of course; the rapids are made by a bar of bowlders across.

Q. Then a chunk of ice might freeze so as to embrace any one of these large bowlders lying along there?—A. Yes.

Q. And when the ice breaks up in the spring it would naturally float down the river with that chunk of rock in it?—A. Yes.

Q. And of course would deposit the rock whenever the ice is melted?—A. Yes.

Q. Is there any such current as that either in or out of Portage Lake Canal?—A. No, sir; not so rapid as at those falls.

Q. I understand you to say that Nebeesh Rapids is in the Ste. Marie River?—A. Yes; below Saint George. The Ste. Marie runs down 15 miles in a narrow channel, and when it gets to Saint George it spreads into a lake that is a mile wide. About 12 miles further down it contracts again, forming the Nebeesh Rapids; then it expands again.

Q. Over the whole distance of this hard-pan that you speak about, at the bottom of the Portage Lake Canal, did you find it necessary to do blasting?—A. My impression is that, where I did it myself, under my own supervision (I was simply a supervisor, and was not there more than once a week), I did it by blasting. Mr. Woodward said that west-

ern men did not know anything about engineering, and therefore he would not adopt my suggestion. I blew up the hard-pan, I think, for two or three hundred feet, from the rim of the lake inside. This clay was very hard on the top where the waves had beaten and compressed it. In the lake we found it softer; but right at the rim of the lake was the toughest part of the whole work.

Q. The effect of blasting was to loosen the clay?—A. Yes; it loosened the clay, and then the water permeated all through the crevices that were made by the blasting, and softened the clay, and afterwards they dredged it and took it out. It was the hardest hard-pan that I ever saw.

By Mr. McCarter:

Q. Were there any bowlders located on the shore of this lake, near where the piers went out into the lake, on Lake Superior?—A. There were no bowlders in the immediate vicinity; but about 1 mile east there is a rocky bowlder point jutting out there.

Q. What kind of a rock is it?—A. Ordinary bowlder, greenstone, trap, and other granite.

By Mr. Redington:

Q. Do you know anything about the character of the bed of the lake at the point you speak of, where the bowlders are to be found?—A. It is a rocky point, with sand intermixed.

Q. Do you know anything about the character of the bottom of the lake outside that point?—A. Not out in the lake; that is, the bowlders stick their heads above the water there.

A. P. Swineford recalled.

By Mr. McCarter:

Question. What connection had you with the introduction of the resolution for the investigation of this canal company's work and land?—Answer. I drew the resolution, and presented it to Mr. Maybury with the request that he offer it in the House.

Q. Since the resolution was introduced and adopted, have you or not taken an active interest in promoting this investigation?—A. Yes.

Q. I show to you the press copy of a letter; look at it and see wetherh the original was in your handwriting.—A. Yes.

Q. Did you write that letter?—A. I think I did (after a pause); yes, I wrote the letter.

(The letter was put in evidence as Exhibit S.)

Q. I show you another letter in type-writing, and ask you to look at the signature and state whose signature it is.—A. That is my signature.

Q. Looking at both sheets, state whether you wrote the letter which is now shown you.—A. Yes; I wrote the letter, or rather, it was written at my dictation, and I signed it.

(The letter was put in evidence, marked Exhibit T.)

Mr. McCarter read the first letter, Exhibit S, as follows:

Exhibit S.

December 15, 1883.

Dear Sir: Mr. Fisher has spoken to me concerning the conversation he had with you about the advisability of sending me to Washington in the interest of the bona fide purchasers and holders of lands within the limits of the O. & B. R. R. R. grant. I inclose you herewith an item from the Lansing Journal, the Democratic paper at the State capital. Mr. Montgomery is one of the most popular Democratic lawyers in

the lower part of the State, and his employment leads me to believe that a desperate effort will be made to capture the Democratic members who constitute a majority of the Michigan delegation.

I am vain enough to think that I could be of some service if sent to Washington. I have had some conversation with Mr. Wakefield, who is anxious to have me go; but I would like to hear from your committee in the premises, and have a definite understanding in the premises. If my services are desired, I would like to be apprised of the fact as soon as possible, so that I can make arrangements accordingly.

Yours, truly,

A. P. SWINEFORD.

J. D. VAN DYKE, Esq.,
Milwaukee.

[Copy of newspaper slip attached.]

M. V. Montgomery will return to Washington after the holidays, and, together with ex-State Senator J. H. Chandler, of Houghton, and Angus Smith, of Milwaukee, will look out for the railroad company's interests in the contests over the Ontonagon and Brulé River Railroad bill.

Q. Did you get an answer to that letter?—A. I think I did; in fact, I am sure I did.

Q. Have you got that answer with you?—A. I do not think I have.

Q. Was the second letter, T, written in reply to the answer which you received?—A. I think it must have been, for I have no recollection of having had more than one letter from Mr. Van Dyke. I think that the second letter was written in reply to the one received by me from Mr. Van Dyke.

Mr. McCarter read letter, Exhibit T, as follows:

EXHIBIT T.

DECEMBER 21, 1883.

DEAR SIR: I have yours of the 19th, and in reply I have to say that I have no particular desire to go to Washington, the matter having been suggested to me by some other parties in interest, who expressed the opinion that I could be of a great deal of service to the claimant, and at the same time expressed a willingness to pay me liberally for my time. It was thought by them that you should have somebody from the upper peninsula, who would presumably have some influence with the Democratic members from other States. I do not know that politics will enter into the matter at all, nor am I vain enough to suggest that I am better acquainted with the facts in the case than others you might send there to assist Mr. McGowan in his work. If, however, I should be called for, I would not be prepared to say what my charges would be until I had looked over the ground somewhat as to probable expenses, and possibly have consulted with others in regard to it. I think, however, that on that point I would be perfectly willing to leave the matter of the amount of compensation to be paid to either Mr. Wakefield or Mr. McGowan. I could get a handsome fee for going to Washington in behalf of an interest which would preclude my saying or doing anything against the Brulé River Company; but I do not wish to place myself in that position if I can avoid it. Should you hear from Mr. McGowan, please advise me of his desire in the premises at as early a day as possible, and much oblige.

Yours, &c.,

A. P. SWINEFORD.

J. H. VAN DYKE, Esq.,
Milwaukee, Wis.

Q. Who is J. H. Van Dyke, and what connection does he have with this business?—A. I only know Mr. Van Dyke as secretary and treasurer of the Menomonee Mining Company. If you wish me to state how those letters came to be written, I will do so with pleasure.

Q. What did the president of the Menomonee Mining Company have to do with this business here?—A. I only knew Mr. Van Dyke as secretary and treasurer of that company, I never had met him until I came to Washington, and then I met him in one of the committee rooms here. I had never seen him before, to my knowledge.

Q. Why did you address him on this subject, and solicit employment

under him?—A. For the reason that during the fall months several parties had come to me, notably Dr. Sears, of Megone; Mr. Stegmiller, of Escanaba; and Mr. Wakefield, of Oshkosh, who expressed their ardent desire to have me come to Washington.

Q. To do what?—A. In the interest of the cash-entry men, or whatever they are called, on the Brulé River Railroad grant.

Q. Are they hostile or friendly to the Brulé River Railroad Company?—A. They are hostile.

Q. What interests were there that were in hostility to the Brulé Railroad Company in reference to those lands which were sought to be forfeited?—A. Cash-entry men, and homesteaders, who live in Marquette and elsewhere, and parties generally who had lands in that district.

Q. What other parties?—A. One other party was the canal company.

Q. They were acting together, as you understood, in promoting the forfeiture of the Brulé River land grant?—A. No; I did not understand anything of the kind. I did not know what their arrangement was. I you like me to state the circumstances, I will state them so that every body can understand them.

Q. State them in your own way.—A. Those gentlemen were anxious to have me come to Washington in the interest of the cash-entry men, more particularly of those with whom I was individually acquainted. Mr. Stegmiller is a personal friend of mine, and Dr. Sear is a personal friend of mine, and Mr. Wakefield is a personal friend of mine. Mr. Fisher, who is referred to in this letter, I met on the train. He stated to me that he had had a conversation with Mr. Van Dyke, and that Mr. Van Dyke had something to do with the matter in some way. What way I did not know, and he did not explain to me, nor did I know until after I came to Washington. He added that Mr. Van Dyke would like to hear from me in the premises; and I wrote Mr. Van Dyke that first letter. I received a letter in reply, to which the second exhibit is an answer. The substance of his letter to me was that my employment to come to Washington would depend entirely upon what Mr. McGowan said about it. That was the first intimation I had of Mr. McGowan having anything to do with it. At the same time, having previously promised these individual friends of mine to come to Washington, my services had been solicited by a railroad company—the Marquette, Houghton and Ontonagon Railroad Company. That was the matter to which I referred in my second letter. It was in that interest that I came to Washington and am now here.

Q. Did you get the employment from Mr. Van Dyke, or from the interest which he represented, that was suggested in your first letter?—A. No, sir; I did not, and I did not desire it.

Q. How long had the resolution been drawn before you had it introduced?—A. The resolution had been drawn I cannot say how long exactly, but certainly for three weeks.

Q. Where was it in the interval between its being drawn and its being introduced?—A. A part of the time it was in my pocket, and a part of the time it was in the hands of Mr. Maybury.

Q. Did you, while it remained in your custody, exhibit it to various persons, as a thing you proposed to do?—A. I may have shown it to one or two persons.

Q. Not to more?—A. No, sir; to very few.

Q. Did you show it to Mr. McGowan?—A. I think not; I am not positive of that. I think, however, that I informed him that I would secure the introduction of such a resolution, if possible.

Q. How many times did you so inform him?—A. Not more than once, I think.

Q. Did you remain here until the meeting of the committee was held which determined that this investigation should commence?

The WITNESS. From what time?

Mr. MCCARTER. From the time of the introduction of the resolution?—A. Yes.

Q. It was on the 18th of March that the committee met and appointed the 28th as the day of proceeding with the investigation, was it not?—A. Yes, the 18th or 19th.

Q. How long did you remain here after the 18th (for that was the day), before you went to Michigan?—A. I think it was the first or the second day after the time was set by this committee that I left as a special messenger for the witnesses.

Q. Special messenger of whom?—A. Of the deputy sergeant-at-arms of the House.

Q. Who had you appointed?—A. The chairman of the committee, as I understand it.

Q. What was the object of your going to Michigan?—A. The object of my going was to find the witnesses and to subpœna them.

Q. Did you have a subpœna issued for yourself to bring you back?—A. I did not.

Q. Was there one issued?—A. Not that I know of.

Q. Was your name handed in on the list of witnesses who were to be subpœnaed?—A. I think not; if it was I did not know it. Certainly I had no subpœna served upon me by anybody.

Q. Did you have a regular commission as deputy sergeant-at-arms?—A. I simply had a subpœna from the Sergeant-at-Arms, at the request of the chairman of the committee, as I understood it.

Q. You mean the chairman of the full committee?—A. Yes.

Q. Mr. Cobb?—A. Yes; I presume that that is the way that it came about.

Q. From whom did you get any information as to the method of your appointment?—A. The first intimation that I had of it was, I was sent for, and went with Mr. Cobb and Mr. Henley, of the committee, to the room of the Sergeant-at-Arms, and subpœnas were there made out, and the Sergeant-at-Arms deputized me to serve them.

Q. Had you solicited such a deputization?—A. I had not.

Q. Had you intimated that you were willing to go if you were deputized?—A. I think I had.

Q. How many miles is it from here to Marquette?—A. That is more than I can tell you.

Q. About how many?—A. Probably in the neighborhood of 1,150 miles.

Q. What is the distance to Houghton?—A. The distance to Houghton would be probably, by rail, 60 or 70 miles farther.

Q. Do you know whether your name has been put in any subpœna, or whether you have been dealt with as a witness in any in reference to this investigation?—A. I do not; my impression is that my name was not put into any subpœna.

Q. You have claimed no fees?—A. Certainly not, and I do not expect any.

By Mr. REDINGTON:

Q. At the opening of Congress there was a application made for the passage of a confirmatory act confirming certain private entries of land and canal selections, was there not?—A. I believe there was.

Q. The private-entry owners and the canal company associated themselves together for the purpose of procuring such an act, did they not?—A. That is what I understood after I got to Washington. I did not know of it before I came to Washington. Let me reconsider that. It is possible I may have known that from seeing it in one of the circulars shortly before I came to Washington.

Q. The first suggestion of employment by these parties came to you, as I understand it, through certain of the cash-entry men residing in the northern peninsula of Michigan, who were personal friends of yours?—A. Certainly.

Q. And they suggested you write a letter to Mr. Van Dyke?—A. Yes.

Q. Mr. Van Dyke occupied the position at that time, did he not, of treasurer of the association of these people?—A. I understood that he was in some kind of authority at the time I wrote the letter. I understood that there was a committee having that matter in charge for the cash-entry men, and that Mr. Van Dyke was either the chairman, or some officer, of the committee, with authority to act in the premises.

Q. Then, in accordance with the suggestion of these friends of yours, you wrote this first letter to Van Dyke?—A. Yes.

Q. To which you had a reply saying that no employment would be given anybody, except at the suggestion of Mr. McGowan?—A. Yes.

Q. Then you wrote the second letter, which has been introduced in evidence?—A. Yes; that is my recollection of it. I think I had one letter from Mr. Van Dyke, and that my second letter is an answer to that one.

Q. And that closed the negotiation?—A. Yes; except with those other parties, who still tried to prevail upon me to come to Washington. They made an effort to induce me to come outside of the committee, or of any arrangement with the committee.

Q. You then came to Washington afterwards in the interest of the Marquette, Houghton and Ontonagon Railroad Company?—A. Yes.

Q. That company claims the land grant extending from Marquette to the city of Ontonagon?—A. Yes.

Q. And the question of the forfeiture of that land grant is pending in Congress?—A. Yes.

Q. You came in the interest of that company?—A. Entirely.

Q. And to secure, if possible, a non-forfeiture of that grant?—A. Yes.

Q. That was the only business you had here?—A. That was the only business that brought me to Washington.

Q. How did you come to speak of the matter of this resolution to Mr. McGowan?—A. I am not sure that I did speak of it to him; but I think it altogether likely that I did. I made no secret of the matter, and in talking with Mr. McGowan I think it altogether likely that I mentioned to him that I proposed to have such a resolution introduced. Yet I may not have done so.

Q. In what interest and for what purpose did you procure the introduction of this resolution?—A. In the interest of the people of the upper peninsula of Michigan.

Q. The subpœnas that you took to Michigan to serve were issued under a *præcipe*, were they not?—A. Yes.

Q. A *præcipe* issued to the Sergeant-at-Arms by the chairman of the full committee?—A. Yes.

Q. Thereupon the Sergeant-at-Arms issued his subpœnas?—A. Yes.

Q. And you took them to Michigan and served them, and brought witnesses back?—A. Yes.

Q. And that is the entire story in that connection?—A. That is all that there is to it.

By Mr. McCARTER:

Q. When did you come to Washington first this winter?—A. I came to Washington about the 21st of January.

Q. Had you drawn that resolution before you came?—A. No, sir.

Q. Then your interest in the people of the Upper Peninsula of Michigan had not, up to that time, induced you to move in the business?—A. No; but I had talked with various parties.

Q. You conduct a newspaper out there?—A. Yes; when I am at home I am associated in that business.

Q. Are you one of the proprietors of it?—A. Yes.

Q. In that newspaper have you not published violent attacks upon the canal company?—A. No, sir; we have not. We have endeavored to tell the truth about the canal company.

Q. Let me call your attention to an article published in that paper after the introduction of the resolution, and which had a postscript congratulating the public on the fact that the resolution had passed. Do you recollect such an article as that?—A. I do not especially. I have not written anything for the paper myself, I think, during this year.

Q. Then the articles in your paper were not abusive of the canal company?—A. No, sir; we simply told the truth.

Q. But did they make severe and violent accusations against the canal company?—A. No, sir.

Q. Did they not charge the company with fraud in building the canal?—A. Yes.

Q. And with fraud in the selection of the lands?—A. Yes.

Q. And called the canal company plunderers?—A. Yes.

Q. And yet you do not think that abusive?—A. Certainly not in connection with the canal company. If I said such things of you they would be untrue, and consequently would be violent and abusive. I never consider the truth abusive.

Q. Did you apply at any time to the canal company to be employed to do job printing for it?—A. No, sir.

Q. Did you write to the president of the canal company requesting employment as printer?—A. We may have done so.

Q. Did you get the printing for the canal company?—A. I do not know.

Q. Do you not know that you did not?—A. No, I do not; for anything I know we may be doing all the job printing for the company now. However, I will say that I am under the impression that we are not, because since the row commenced the canal company has withdrawn its advertisements from our paper, and I take it for granted that it does not give us job printing.

Q. Was not the resolution to investigate the canal company published in your paper the very day it was introduced in Congress?—A. No, sir; I think not.

Q. How near to that day was it published?—A. I think it was printed the day that the resolution was adopted; I am not positive about that.

Q. Was not the resolution adopted the same day that it was offered?—A. I am not sure as to that. It may have been as you suggest, because when I was at home in the first week of February I left with my partner a copy of the resolution, and I telegraphed him from Washington when it was adopted, and I think it was printed under those circumstances.

By Mr. REDINGTON:

Q. Was the interest which you spoke about in your direct examination, and which is mentioned in your letters to Mr. Van Dyke as possibly antagonistic to the claim of the cash-entry men and canal company, the interest which you finally came here to represent?—A. I do not think I spoke of it in my letter to Mr. Van Dyke. My recollection of it is that I said in that letter that if I came for the other interest it would preclude me from being any benefit to my friends in the other matter.

Q. Then the interest to which you referred was that of the Marquette, Houghton and Ontonagon Railroad?—A. Yes.

Q. And no other?—A. No.

Mr. PAYSON. How would that be antagonistic to the interest of the cash-entry men on the Ontonagon and Brulé River line?

The WITNESS. Because I knew that I would have positive instructions, if I came here (as I did have afterwards), not to meddle with the Brulé River fight in any manner. The Marquette, Houghton and Ontonagon Railroad Company did not want to be mixed up with it, or to be known in connection with it.

Mr. PAYSON. Although the one interest was not directly connected with the other?

The WITNESS. No; but the two interests might get mixed up, as they did get.

Mr. DAVIS. Suppose the land grant of the Marquette, Houghton and Ontonagon Railroad was forfeited——

The WITNESS. I decline to answer any question of yours, Mr. Davis. I will answer any question of your attorney's.

By Mr. MCCARTER:

Q. Suppose Congress had forfeited the Marquette, Houghton and Ontonagon Railroad grant, or had refused to forfeit it, how would that result in either way affect the cash-entry men on the Brulé River grant?—A. I do not know that it would. I have not intimated that it would.

Q. Why would it preclude you from any action?—A. Simply because I knew that if I came here in the interest of the other company, my instructions would seal my lips so far as this other matter is concerned.

Q. From whom did you get your instructions?—A. I got my instructions from the Michigan director of the Marquette, Houghton and Ontonagon Railroad Company.

Q. What is his name?—A. S. L. Smith.

Q. The same who was first agent, or receiver, for the canal company?—A. Yes; or agent for the receiver.

Q. And a brother of Mr. Angus Smith?—A. I believe he is.

Q. And Mr. Angus Smith is of the Ontonagon and Brulé River Railroad?—A. Yes; as I understand it.

Mr. PAYSON. Did you say that you are still here in the employment of the Marquette, Houghton and Ontonagon Railroad Company?

The WITNESS. Yes.

Mr. PAYSON. With reference to the legislation before Congress affecting that company?

The WITNESS. Yes.

JAMES PRYOR recalled.

By Mr. MCCARTER:

Question. Do you know of the canal company's disposing of a large quantity of lumber that was left after construction—sheet-piling and

other lumber?—Answer. I remember that there was a cargo of some 200,000 feet of refuse lumber shipped in 1881, including sheet-piling, planking of various kinds, and pitch boards.

Q. Do you know of any 12-foot sheet-piling having been sent away?—A. I do not, but I presume that that was included in the refuse planking that was shipped away. I do not know positively. In addition to that, Mr. Godstein, one of the witnesses on the other side, took 50,000 feet.

Q. Of lumber which had been sawed for the company?—A. Yes. He took it in pay for work that he did at the quarry, and he sold it to the Allouez Mining Company. Smith & Harris also had forty-odd thousand feet of refuse lumber the same season.

Mr. VAN EATON. Why was not this lumber, which you speak of as having been sold, used by the canal company?

The WITNESS. Because it was not of a fit quality for the work required.

By Mr. McCARTER:

Q. Required by whom?—A. By the canal company in doing its work.

Q. According to what?—A. According to the directions of the engineer.

Q. Do you know whether any 12-foot sheet-piling was used by the canal company for any other purpose than being driven?—A. Some of it was used for covering the piers—decking the piers; about 175,000 or 200,000 feet of it.

Q. Do you know of its being used for any other purpose?—A. I do not.

Q. What causes operate during a season to obstruct the channel of the canal after it has been dredged to a depth of 13 or 14 feet, or to whatever depth it is dredged?—A. After every storm of length or severity there are more or less of sunken logs washed in between the piers and deposited along the basin and the bottom of the canal. These logs vary from 5 and 6 inches up to 12 and 15 inches in diameter. On occasions when the water is perfectly clear I could see from my small boat, looking through the water, the bottom of the canal lined with these logs. We have had to take them out and to dredge them out every season continually.

Q. Were these logs there when you finished the dredging in the spring?—A. No; but they came in every season. The shore line outside of the pier is more or less covered with these logs, and during very heavy storms the logs are removed from their situation and are carried by the back action of waves, and occasionally they happen to get in between the piers. If they get in between the piers they are sure to be washed into the canal. Some of them will float, and some of them you will see with their ends just sticking over the water. At other times they will sink so that they cannot be seen at all. They will lie at the bottom.

Mr. SHAW. What kind of timber are they?

The WITNESS. Every kind of timber—hard wood and soft wood, and everything that is found along the lake shore.

Mr. PAYSON. It becomes so saturated that it will finally sink?

The WITNESS. Yes; it becomes so heavy that it will sink like a stone. Hemlock, for instance, will hardly float, even when it is green, without being saturated with water, and as to green oak, it will sink in water.

By Mr. McCARTER:

Q. Do you know anything, of your own observation, of bowlders being brought into the harbor between the piers, or into the canal?—A. I

know of a very large boulder having been dredged from the canal last season, which was at least 4½ feet long, 3 feet wide, and about 2 feet in thickness—a large sandstone.

Q. Where was that dredged out?—A. It lay near the side of the canal in ground where we ourselves and Mr. Williams had both dredged successively and had not come across such a stone. It was a pretty new rock, which, as I suppose, had been brought in there during the previous winter. I could not account for it in any other way but that the ice coming along the lake shore brought it in. Our quarry of sandstone is just a mile above the canal on the lake shore, and the shore is strewn with these sandstones.

Mr. MONTGOMERY. On the east side or on the west side?

The WITNESS. On the west side. The ice, forming as it does, goes down to the very bottom and takes hold of these stones. I have seen ice there 12 and 15 feet in depth. When the ice moves in spring it is a very little thing for it to carry off a big stone even of that size, and it floats along until the ice melts and the stone drops. Being in proximity to the canal, it is reasonable to suppose that this stone came there from the action of ice. That is the way I philosophize about it. I do not know whether I am correct or not.

By Mr. MCCARTER:

Q. How does ice collect outside the piers?—A. It forms in large ridges along the lake shore. First, in the fall a ridge forms close to the shore, and subsequently to that another ridge forms, perhaps a quarter of a mile further on, and subsequently to that another ridge is formed, and so the ice is piled up in that way.

Q. How high does it accumulate?—A. Sometimes a violent storm breaks up all the ice and precipitates the whole thing on the shore and piers. I have seen ice 15 or 20 feet high on the piers. I have seen it 12 feet high in the month of May. After steamboats have run through I have seen ice there from 10 to 15 feet in height.

Q. Do you know whether ice is actually brought into the canal from outside between the piers?—A. Yes.

Q. How far is it brought down the canal?—A. It crowds into the canal as far as it can come until it makes a jam. It may come in 1,000 feet if there is no resistence to it inside. It goes on, unless it meets resistance, into Portage Lake.

Q. Have you known ice to be brought into Portage Lake through the canal from outside?—A. I cannot say. I am not there in the winter.

Q. Do you know how the temperature of the water of Portage Lake is as compared with the temperature of the water of Lake Superior?—A. There is not much difference. The water freezes in Portage Lake quicker than it does in Lake Superior, from the fact that it is shallower in Portage Lake and it becomes cold quicker.

By Mr. DAVIS:

Q. Look at Exhibit M [spreading it before witness]; the point I mark is above the entrance to Portage Lake, and from there up to the blacksmith's shop is about 600 feet. That has been designated by Mr. Muloch as the place where the sheet-piling was driven when he arrived at the work—north of the Portage Lake entrance, starting at the blacksmith shop. Is that sheet-piling still there?—A. Yes.

Q. Is it in good order?—A. Just as good as it was when it was put there.

Q. From this point, the blacksmith shop, up to Lily Pond, going

toward Lake Superior, was there any necessity for sheet-piling of any kind?—A. Only in compliance with plans and specifications.

Q. Was there any necessity from the nature of the banks for sheet-piling?—A. I will answer that by saying that if the sheet-piling were removed now I would not replace it.

Q. When you say "only in compliance with plans and specifications," do you know what the plans and specifications required?—A. I suppose that the work being done by Mr. Forster was done according to the plans and specifications.

Q. Do you know whether the plans and specifications required sheet-piling there?—A. I do not know.

Q. But you suppose that they did because it was put there by Mr. Forster, and you suppose that he piled it according to the plans and specifications?—A. That is all the supposition I have.

By Mr. MONTGOMERY:

Q. When did you first commence your duties in connection with the canal company in outside work?—A. In 1874.

Q. Were you present on the work at the time it was going on?—A. Yes.

Q. At the time the sheet-piling was being driven?—A. Yes.

Q. All the time during the construction of the canal?—A. I think so.

Q. I do not mean every day, of course; but were you there and thereabouts? Did your duties compel you to be there and to see what was going on all the time?—A. I was in the office.

Q. Where was the office?—A. The office was located in the center of the works.

Q. And what were you doing up to 1874?—A. I was cashier of the company.

Q. Then you did not know much about the out-door work?—A. I did.

Q. In what way?—A. From my personal observation.

Q. You do not mean to say that, as bookkeeper, you know about every pile that was driven, whether it was 12 feet, 14 feet, or 16 feet?—A. No, sir.

Q. There might have been a great many thousand feet of 12-foot piling driven without your knowledge?—A. I do not think so, from the depth of water.

Q. I understand you to say that you let Mr. Godstein have 50,000 feet of lumber back again?—A. Yes; that is, he took 50,000 feet, or he got a purchaser for it, in order to obtain money due to him by the canal company. The company was in embarrassed circumstances at that time, and anything that it could turn in in the shape of money it did turn in. Mr. Godstein wanted some money, and he found a market for 50,000 feet of refuse lumber.

Q. He took back 50,000 feet of lumber in part payment?—A. Yes; and turned it over to the Allouez mine, and he was paid for it by the Allouez Mine Company.

Q. Do you know that of your own knowledge?—A. I do.

Q. Did you make the transaction yourself with Mr. Godstein?—A. I did not.

Q. Who did?—A. The superintendent.

Q. Then you can hardly say that you know of it?—A. I know of it because the account was given to me by the checking clerk who checked it.

Q. Then you know that by the fact that it was so reported to you and put upon your books?—A. Yes.

Q. In regard to sheet-piling, I understood one witness to say that it was not necessary to sheet-pile the canal, except where there was sand on the bank. Do you understand so?—A. Yes.

Q. And you say in that connection that if the sheet-piling were removed from certain places you would not restore it?—A. I would not.

Q. Wherever there is soft soil you must have something in the nature of a solid wall to the canal?—A. The walls are so solid that they do not require anything to keep foreign matter back.

Q. That is for only a short distance?—A. That is for more than a mile of the canal.

Q. Then the southern three-fifths of the canal is composed of soil so hard that it did not need to be protected by sheet-piling or in any way?—A. It is peat—decomposed trees. There is nothing to give way there. The walls stand now just as the canal was originally dredged before the sheet-piling was driven in. There is now from 10 to 12 feet of water there for a distance of perhaps 6,000 or 8,000 feet where nothing has accumulated; and we have done no dredging in the south end of the canal for that distance. There was a stream coming in from the Albany and Boston Copper Mine, which emptied right at the Portage Lake end of the canal and which brought in a deposit of conglomerate sand, and this I was compelled to dredge out for about 6,000 feet.

Mr. MONTGOMERY. You need not make such long answers. I simply inquired of you if the walls of the canal to the south for three-fifths of the distance were composed of such material as in your judgment made sheet-piling unnecessary?—A. Sheet-piling is not required there.

Q. Then, if I understand you, there was three-fifths of 2 miles of the canal, or thereabouts, which was protected by sheet-piling, where sheet-piling was utterly useless, and where there was no occasion for it and never was?—A. I think so.

Q. And that sheet-piling cost a good deal of money, I suppose?—A. It did.

Q. And it was all, for that length, useless?—A. Yes, according to my views of it; and experience shows it.

Q. Speaking about the drift of logs and ice with bowlders or stones, would not that drift probably be cut off if there had been an outside breakwater?—A. I should think not. Could it not float just as well 3 miles as 1 mile?

Q. Do you not think that an outside breakwater, constructed in the manner which Captain Blanchard indicated or suggested, would have completely protected the mouth of the harbor from anything drifting into it?—A. Not a bit of it.

Q. You think that the ice would have come in just like a vessel; would have rounded the end of the breakwater and got into the mouth of the canal?—A. Yes; just as the waves would float it along. If the ice strikes a circular obstruction, and the wind is in the northwest direction, the waves will carry it in a northeast direction, and the ice will come around the end of that circular pier that Captain Blanchard speaks of. It would find an opening between that and the end of the pier, and would naturally float in.

Q. You think its natural tendency would be to get in in some way?—A. Yes.

Q. Do you call that sandstone that you dredged out of the canal a bowlder?—A. You may call it what you want to.

Q. Is that a proper term for it?—A. A bowlder is circular in form.

Q. A flat sandstone the length and width of this table would not be a bowlder, would it?—A. Why not?

Q. Would it be naturally termed a bowlder?—A. Certainly.

Q. I thought you said that the popular understanding of bowlders was that they were round stones?—A. That is perhaps the idea with a good many people, but I would call them all bowlders.

Q. Sandstones and all?—A. Why not sandstones?

Q. You said that you found this bowlder inside the piers, and up nearly against one of the piers?—A. It was in the canal proper.

Q. Inside the 100 feet?—A. Yes.

Q. How far up the canal was it?—A. I should think it was in the neighborhood of 1,000 feet inside the ship canal.

Q. At what depth did you find it?—A. At about 12 feet deep.

Q. Are you quite sure that it was not there the fall before, and that it was not always there?—A. I am certain it was not.

Q. How are you certain of that?—A. Becaûse we had cleaned the bottom

Q. Had you dredged below the surface?—A. Yes.

Q. Who had done the dredging?—A. The company's dredge had done it.

Q. If I understand the construction of the canal, it was not 12 feet deep at the sides. You did not have 12 feet of water there, had you?—A. Yes, in many places.

Q. I understood the witnesses on both sides to say that there was 80 feet of flat bottom surface, and that then for about 10 feet from the side of the wall the bottom sloped; is that true?—A. Yes, in some places.

Q. If there was 14 feet depth of water in the center of the canal, there was not nearly as much water near the walls of the canal, was there?—A. It would average from 10 to 12 feet near the walls in many places.

Q. You told us that Mr. Williams had dredged where you found this bowlder?—A. He had dredged right close by.

Q. You heard Mr. Williams's testimony in which he said he had only dredged 50 feet in the center of the canal?—A. He did not tell the truth; he was mistaken.

Q. How many feet wide did Mr. Williams dredge?—A. He dredged more than 60 feet.

Q. He said that he took two cuts, and that each cut was 25 feet; is not that right?—A. It is not. He could not dredge in the canal so narrow a cut as 25 feet and have the full swing of the dredge at a depth of 13 feet.

Q. Why?—A. Because this dredge is 30 feet wide.

Q. Does he not know as much about his dredge as you do?—A. I think he is prejudiced a little in that direction. If the cross width of the dredge is 30 feet and if he digs 15 feet in depth, the radius of that circle must be 15 feet of course. The dipper hangs so that as it passes the corner at the side of the dredge, it digs beyond it for 2 or 3 feet sometimes, dependent on the depth of the water. If it is digging at a depth of 18 or 19 feet, the dipper will come out 4 or 5 feet beyond the side of the dredge. Mr. Williams must have dredged 60 feet wide where we found the bowlder.

Q. Suppose he did dredge 60 feet wide in the center of the canal; that would leave 20 feet on each side between where he dredged and the walls. Did you not find this bowlder close to the wall?—A. About 20 feet from the wall.

Q. Just enough distance from the wall to get inside of where Mr. Williams dredged. That would be within the 60 feet that forms the center of the canal?—A. No, sir; how could that be? The canal is a

hundred feet wide, and if there were 60 feet clear in the center, I suppose there would be 20 feet on either side.

Q. Did you find the bowlder within that clear 60 feet?—A. Within the edge of the 60 feet, just upon the line of the 60 feet.

Q. What do you mean by that?—A. We found it just on the outer edge of the cut.

Q. You told the committee that you found the bowlder where Mr. Williams and yourself had both dredged?—A. Yes.

Q. Did you not mean by that to convey the impression to the committee that Mr. Williams and yourself had dredged over that very spot?—A. Yes.

Q. Then you mean to say that you found the bowlder right in the place where Williams had previously dredged?—A. I want you to understand that when a dredge takes a cut of 30 feet a bit of ridge is left between each cut that is washed on either side, so that within the outside edges of the two cuts there would probably be a space of 70 feet in the canal.

Q. Then you think that this bowlder was found within the limits of 70 feet in the center of the canal?—A. Yes; within 70 feet.

Q. Would you even say that it was 60 or 50 feet?—A. Somewhere from 60 to 70 feet.

Q. Did you see the bowlder?—A. Yes; it is on the side of the canal now.

Q. Did you see it as it was taken out?—A. I may have seen it the same day, or it may have been a day or two afterwards.

Q. You told us something about sandstone up the shore about a mile west of the opening of the canal. Is that the same locality that was described by Mr. Forster?—A. I do not know.

Q. Where this sandstone quarry is, is there a projection of the land into the lake?—A. Yes; it is a point.

Q. How much of a point is it?—A. It is quite a considerable point.

Q. Which is farther north, this point of land or the end of the pier?—A. This point of land.

Q. And there is another rocky place east of the piers?—A. Yes.

By Mr. DAVIS:

Q. While you were cashier for the old canal company, where did you do your business?—A. At the office of the company, right upon the bank of the canal.

Q. And you lived there and staid there day and night, did you?—A. Yes, day and night.

RAPHAEL PUMPELLY sworn and examined.

By Mr. MCCARTER:

Question. Where do you live?—Answer. Newport, R. I.

Q. How long have you lived there?—A. Four years.

Q. Where did you live before that?—A. Owego, N. Y.

Q. What has been your profession or occupation?—A. Mining engineer and geologist.

Q. How long have you been a geologist, or have you given attention to that subject?—A. Twenty-four years.

Q. Have you been a professor of geology?—A. I have.

Q. Where?—A. Harvard University.

Q. How long?—A. Five years.

Q. During what five years?—A. From 1866 to 1871.

Q. In what other parts of the world have you exercised your profes-

sion as geologist, and how?—A. In 1860 I went to Arizona in charge of silver mines. From 1861 to 1865 I was an employé of the Japanese and Chinese Governments.

Mr. MONTGOMERY. We make no question of Professor Pumpelly being an expert.

Q. Has your attention been called to the subject of glacial action in moving rocks and stones?—A. As a geologist, it has been.

Q. Are you acquainted with the Lake Superior country?—A. Very well.

Q. Have you exercised your profession in that region?—A. I have.

Q. Have you heard the description of the Portage Lake Canal and of the harbor leading to it?—A. I have.

Q. What would you say about the probability or possibility of bowlders and rocks being carried into that harbor and canal by the action of ice?—A. I only know that they can be carried by ice wherever the ice would go if the ice were sufficiently thick. Ice carries bowlders of a large size.

Q. What size can you say that ice carries bowlders and for what distance?—A. That depends upon what the ice is. Icebergs carry bowlders of very great size. Ice such as I have observed on Lake Superior might well carry bowlders of many tons weight.

Mr. MONTGOMERY. There cannot be any doubt about that; not the least.

Mr. McCarter stated that this was all the testimony he desired to introduce at this time, with the exception of that of two Government officers whom he desired to examine as experts and who would be here to-morrow. He said he desired to examine them on the subject of breakwaters and harbors and the general construction of this work.

The committee here took a recess.

After recess JAMES PRYOR was recalled.

By Mr. McCARTER:

Question. I understood you to say that since the canal has been navigated you have a record of every vessel that has passed through it?—Answer. Yes.

Q. Can you tell me how many times the City of Duluth went through the canal in 1873, if at all?—A. Not at all. She was not built in 1873.

Q. Give the name of every vessel that went through the canal in 1873, and how many times, if any, she made more than one trip.

In answer to this question the witness commenced to give the names of such steamers and the number of their trips, but his statement was interrupted, and he was directed to furnish a list to be put into the testimony.

Q. Had you knowledge of every vessel that went through?—A. I did not see every vessel that passed through the canal, from the fact that some of them passed at night.

Q. How did you get the list?—A. By collecting the names from the clerk.

Q. And this is the list of the vessels which paid toll in passing through the canal?—A. Yes; as the clerk reported to me.

Q. The list is taken from books which contain the record of tolls collected and the vessels from which they were collected?—A. Certainly.

Q. Did you ever know of any vessel coming up from Portage Lake

that was obliged to unload any freight not destined for ports at or near Portage Lake, so as to get through the canal?—A. No, sir.

Q. Did you ever know any such instance?—A. No, sir.

Q. If such a thing had happened, would it have come to your knowledge?—A. I think it would.

Q. Something was said by witnesses about loading freight for Houghton and Hancock—a partial load—and then unloading at those places and going on with the rest of the load to Lake Superior; state what you know about that practice and what the course of business was.—A. If vessels had anything for Portage Lake, of course when they arrived there they put it off and went right along. If they had anything for ports in the neighborhood of the canal, say Eagle River, Eagle Harbor, or Ontonagon, and if the steamer that brought it to Portage Lake was not intending to call at those points, it frequently discharged its freight for those points, to be taken by a certain line of boats that ran to those ports, such as the Manistee, or a boat of that line. The Atlantic, for instance, ran between Buffalo and Eagle Harbor and Eagle River, using the canal entirely and especially for that purpose.

Q. Do all vessels that trade from points below Portage Lake to points above Portage Lake that have to go through the canal go through it?—A. Yes, sir.

Q. Do you know of any instances in which they have not gone through it?—A. I do.

Q. State what those instances were and the character of them.—A. For two or three seasons, at the opening of navigation, during the existence of this bar, and before it could be removed, a few of the deepest-draught vessels did not call at Portage Lake at all. They omitted Portage Lake and went right through. I think it probable that what Captain Blanchard says is true. There were one or two occasions when vessels came into Portage Lake and discharged freight there and went back around the point. I have known of a few cases of that kind, but very few.

Q. Why did they go back around the point?—A. This was before I could have the bar removed; but as soon as the bar was removed they all used the canal without let or hindrance.

Q. Do you know of any instances of vessels coming to Portage Lake and passing through Portage River into the lake again without going through the canal?—A. I do not know of any especially. I have mentioned the Empire State. My record shows that the Empire State did not use the canal for two or three trips in a certain season. I do not know whether she came to Portage Lake and went back again. I would have no record of that on my books. But if this had been the case, I would have a record of it in the books of the other company, because they had to pay a toll for passing Portage River. That is an entirely different company.

Q. Do you remember any instance where a vessel came to Portage Lake and found a vessel going back and was towed back—I mean coming up to go through the canal, and thus to get to Portage Lake, and being towed out and going back by the Portage River and not by the canal?—A. There was one instance of the kind. It was in the case of the steamer India in the early spring of 1881 or 1882. She went into the canal expecting to pass out. I notified either the captain of the boat or the agent of the line of the depth of water in the canal, and it appeared that he could get out with the draught he was drawing. But when he arrived at the canal there was a considerable sea on and he was afraid to attempt it. Just at that point another steamer was coming in through

the canal, and the captain of the India embraced the opportunity of having this steamer tow him into Portage Lake. He was afraid to pass the bar, and he was towed back to Portage Lake, and then he went on his way around Keweenaw Point. That is the only instance I know of that character. The two steamers, of course, passed each other. They would have passed each other in the canal at any rate.

Q. Steamers do pass each other in the canal at other places than Lily Pond, do they?—A. They pass each other anywhere. I made a rule which was established by the court, that vessels entering at either end of the canal should blow their whistles one minute so as to notify each other and to modify their speed so that they would meet at Lily Pond, the point designated for passing each other. This rule was observed a short time in 1874, the first season; but as soon as the captains found that they could pass each other any where in the canal, they disregarded the rule and did pass each other without let or hindrance, taking no notice of my rule. I did not care about insisting upon it so long as boats could pass each other without injuring the sheet piling of the canal, and they did pass each other right straight along in the canal.

Mr. SHAW. What width are those boats?

The WITNESS. They are 36 feet wide, and when their fenders are outside, they are 38 feet wide.

By Mr. DAVIS:

Q. Have you ever known of vessels running into the Portage Lake Canal in case of a storm?—A. That fact has been reported to me by the men. We keep a light at our own expense at the southern end of the canal, and we keep a man there at night. We keep the light there for the accommodation of steamboats, and we keep a man there to record all the vessels that pass. This man calls at my office once a month on the first of every month, and reports to me every vessel that passed during the month. I check the list with him and see how we agree. Sometimes he misses a vessel and sometimes I miss one, some vessels that have passed in the night.

Q. Have you known vessels to go in and out the Lake Superior end of the canal in a gale of wind?—A. This man reports very often vessels coming in and lying in the canal during a storm and then turning out. Of those vessels I keep no reckoning, from the fact that they pay no tolls. We never charge them anything for a harbor of refuge. They use that indiscriminately.

Q. Do you recollect a great gale which swept over the lake last fall when the Manistee was lost?—A. I do, with great sorrow.

Q. That was a very severe gale?—A. Yes.

Q. Tell the committee what you know about the Manistee and other boats leaving Ashland and going out in the gale.—A. All that I have on the subject is newspaper reports as regards their position, and the reports from captains and agents of the line. Of course, I saw the vessels after they arrived at Portage Lake—those that did arrive. These three vessels, the China, the City of Duluth, and the Manistee, left the harbor at Bayfield (I believe it was) somewhere about 8 o'clock in the evening. They all three put out within about an hour and a half of each other, the Manistee ahead of the others. The Manistee never was seen or heard of subsequently. The China and City of Duluth weathered the storm, entered Portage Lake Canal, and came safely into Portage Lake on the morning of the 16th day of November, in the same gale that sunk the other boat.

Mr. PAYSON. Was it during the continuance of the gale that they entered the canal?

The WITNESS. The gale had subsided, but still there was quite a storm. I was perfectly astonished when I found that they had arrived in port next morning.

By Mr. DAVIS:

Q. Was there a big sea then on Lake Superior?—A. It was so reported, but it had subsided some.

Q. Do you know of any deep-draught vessels using the canal since 1873 with full loads?—A. Yes; in 1874 the schooner Brightie passed through the canal with a full cargo of coal; I should think that she was drawing at least 12 feet of water; the vessels that come to Portage Lake with full cargoes of coal usually draw from 12 feet to 12 feet 8 inches.

Q. In other words, all the vessels went through the canal irrespective of the loads that they had, did they not?—A. Yes; in 1882 the tug Niagara towed the schooners Montgomery and Montcalm loaded down deep with coal to discharge at Eagle River; when they arrived at Eagle River it was so rough that they could not unload and were detained there several days; the captains got tired waiting, and they telegraphed to the agent that they could not unload there, and the answer came back to them to return to Portage Lake and to discharge there; they did return and discharged at Portage Lake; the tug which towed them was drawing at least from 12 to 12½ feet of water.

Mr. MCCARTER. Eagle River is a port which vessels make after going through the canal.

The WITNESS. Yes.

By Mr. DAVIS:

Q. In other words every vessel trading with the Lake Superior country that had business at Hancock and Houghton went through the canal?—A. Yes; after the removal of the bar in the spring.

Q. The Iron Duke and the Iron Age, the vessels that Captain Blanchard talks of, were they trading between Cleveland and Marquette in the iron ore business?—A. Yes.

Q. Did you ever see them at Portage Lake?—A. I saw the Iron Duke there once.

Q. What was she loaded with?—A. She had a load of coal.

Q. Brought from a Lake Erie port?—A. Yes.

Q. Did you ever see anything of those other vessels there at all?—A. I think my record shows that they entered Torch Lake with a cargo of coal for Calumet Mine. Two such boats as the Iron Age could pass each other in the canal.

Q. What depth of water did you keep in the canal between the piers?—A. We always endeavored to keep from 14 to 16 feet.

Q. What depth did you keep between the piers?—A. I never left my work until I had obtained that depth—14 to 16 feet. Since Mr. Williams has not done our work, I have been in the habit of taking five cuts instead of four, as I found that the sand was annually accumulating and that it was necessary to take up more cuts than when he did the work in 1878 and 1879. I have dug as deep as 19 feet at the outside and then I would not have more than 16 or 17 feet of water.

By Mr. SHAW:

Q. How many feet wide was the cut?—A. There is some little difference between Mr. Williams's opinion and mine in that respect. He

gives the minimum while I give the maximum. There are always two sides to a question. My side to this question is that we can dredge 30 feet odd to a cut, and he says that he cannot dredge more than 25 feet. He has given the minimum figures. If the dredge cuts down through sand to the depth of 17 or 18 feet deep, the sand flows in for a distance of 20 feet from the dredge. It is sucked in. Hence after the first deep cut, I would move probably 20 feet one side of that cut and would take up the next cut and go on with that. That would bring in sand again, which would allow me to pass beyond the cut to commence the next cut. Hence in 5 cuts I would probably cover from 150 to 175 feet.

Q. When your scoop would come out after making a cut of 25 feet wide, you would not commence again to make the second cut right where you quit, but would leave a little ridge between the first cut and the next one?—A. Yes.

Q. And that ridge would level in and help to fill up where you had dredged?—A. Exactly.

By Mr. MONTGOMERY:

Q. As a matter of fact, without reference to whether or not these vessels were loaded with that purpose in view, vessels did come from the East, and did discharge a good portion of their freight before they entered Portage Lake Canal?—A. Sometimes they discharged a little and sometimes not any.

Q. Did you ever know a deep-draught vessel, fully loaded, to come by way of Houghton and pass through the canal without discharging part of its cargo?—A. Yes; these coal vessels that I have just referred to.

Q. Mention them.—A. The Montgomery and the Montcalm; sailing vessels loaded with coal.

Q. What draught of water had they?—A. At least 12 feet.

Q. Were they fully loaded?—A. Yes.

Q. How do you know they were?—A. I had their reports.

Q. When was that?—A. In 1882.

Q. It is true, is it not, that (ordinarily, at least) vessels coming from the east to the Lake Superior ports discharge a portion of their cargo (from one fourth to one-third or one-half) before they pass through the Portage Lake Canal?—A. No, sir; it is not true.

Q. Is it not true as to the deep-draught vessels?—A. Not as to deep-draught vessels, or any other vessels.

Q. Do they not discharge a good portion of their cargo at these ports?—A. Sometimes not 500 pounds, sometimes 5 or 6 tons, and sometimes 50 tons, just as it happens.

Q. Is it not true that deep-draught vessels which were in the habit of coming through the Sault Marie Canal did load with reference to passing through your canal in order to get through without trouble and lighten up as they came along?—A. They would do so during the existence of the bar, and then only.

Q. About how much of the spring did the bar exist so as to make this necessary?—A. About from three to four weeks.

Q. What time did you usually get the bar dredged out?—A. That depended on the season.

Q. I mean usually?—A. Some seasons we got it dredged out in May and other seasons in June.

Q. It was never later than June?—A. Not later than June, so as to allow the passage of vessels.

Q. And it was never earlier than May?—A. It was never earlier than May.

Q. What would be the average interference with navigation year by year?—A. None at all with medium and light-draught boats, but with deep-draught vessels the interference would be two trips, or about one month.

Q. If the canal had been constructed in the first place so that dredging would not be necessary year by year, this interference with navigation would have been avoidable, as a matter of course?—A. I think not.

Q. If the canal had been constructed so that dredging would not have been necessary at all, then this month's interference in the spring every year with navigation would not have occurred?—A. I do not think it could be avoided.

Q. If the canal had been so built as that dredging would not have been necessary at all year by year, then, I say, this yearly interference with navigation would not have taken place, would it?—A. I suppose not.

Q. That involves this conclusion. If it were possible or reasonable so to construct the canal as that sand would not drift in there, and no bar would be formed, it would be open to navigation as soon as the ice got out?—A. If the piers were extended far enough.

Q. Was Mr. Williams correct in his testimony when he said that if the piers were built out far enough, and this crib so constructed as that sand would not drift in (so that dredging would not be necessary in 10 years), then there would be no interference with navigation in the spring of the year; would there be?—A. No, sir.

Q. Vessels sometimes do fail to come in there, do they not, at the Lake Superior end, on account of storms?—A. Not on that account; on account of business.

Q. Do you not know (or do you not know the other thing) that the vessels do sometimes pass the mouth of the canal in consequence of severe weather?—A. Very rarely.

Q. That is sometimes?—A. Very rarely.

Q. How do you know that?—A. Because the record shows that they come to the canal, and that we collect tolls from them from the beginning of the season to the end.

Q. Their failure to pass through the canal does occur occasionally?——A. Not very occasionally; seldom occasionally.

Q. Now, about the Empire State; what happened to her?—A. Captain Blanchard says that she went around the point. I do not know anything about it.

Q. She failed to come through the canal at that time, did she not?—A. My books show that she did not use the canal in the spring two or three trips.

Q. Are you able to identify the time which Captain Blanchard speaks about?—A. I am not able to identify it.

Q. If you are able to identify the trip which Captain Blanchard speaks about you are able to say, are you not, that the vessel did not go through the canal on that occasion; can you not identify the trip?—A. No, sir.

Q. What did you mean when you told us that there were two or three trips that the Empire State did not pass through the canal?—A. I mean to say that she either went up outside (which is the more probable), or she may have come to Portage Lake and returned around the point if the bar existed there.

Q. Do you mean the same season?—A. The same season.

Mr. DAVIS. What trips did the Empire State omit in 1882?

The WITNESS. Not any.

By Mr. MONTGOMERY:

Q. What trips did she omit in 1881?—A. She omitted the third and fourth trips, but she used the canal on her first and second trips.

Q. What was the time of her third and fourth trips?—A. Away in the end of June or the beginning of July.

Q. That was after the dredging?—A. Yes.

Q. Now, about 1880?—A. She did not use the canal until her trip No. 4.

Q. What time of the year was that, judging from your recollection of the season and your collection of the tolls?—A. I presume it may have been somewhere in the beginning of June.

Q. Would she make three trips after the opening of navigation in May before the beginning in June?—A. Some seasons they go through as early as the first week in May.

Q. Was that so in 1880?—A. I cannot recollect.

Q. Now, about the steamer India; what was the matter with her?—A. Just what I said; that was all.

Q. She went up, you say, somewhere near the mouth of the canal and was towed back. Do you recollect the circumstance?—A. Yes; I was informed of it by the agent of the line.

Q. Do you recollect the occurrence so as to recollect the date?—A. No, sir.

Q. Do you recollect her being towed back?—A. Yes.

Q. Did you see her being towed back?—A. I did not.

Q. What kind of weather was it?—A. It was blowing a little. There was too much sea on or else she would have gone out.

Q. How was she loaded on that occasion?—A. I do not know.

Q. What water does the India draw?—A. Never less than 11 feet.

Q. And you say that it is habitual for steamers to pass each other anywhere on the canal?—A. Yes, sir.

Q. Has that been always so since the canal was constructed?—A. Yes.

Q. They have always passed each other at will as they pleased?—A. Yes.

Q. Two of the heaviest vessels?—A. Yes, any of them.

Q. Your purpose in giving directions that upon entering the canal they were to blow their whistles was that two boats should not pass each other except at Lily Pond?—A. Yes, that was the purpose.

Mr. DAVIS. That was the order made by the circuit court of the United States. The canal was run then by the court.

Q. The court evidently thought that it was not proper for two boats to pass each other?—A. That was in a code of rules which I prepared myself and sent to Detroit, and Mr. Russell, the attorney of the company, had them confirmed by the court.

Q. You thought that a proper regulation to make?—A. I did.

Q. As to the Portage end of the canal; had there been any complaint made about that?—A. There is less water in the Portage Lake end of the canal than there is in the Lake Superior end of it.

Q. How much less?—A. At least one foot.

Q. What is the depth of water in the canal there?—A. For half a mile from the mouth of the canal at the Portage Lake end there is not in the lake itself over 13 feet of water, but the bottom is so soft that if a deep-draught vessel wants to pass along, it sails over water and mud.

Q. It is true, is it not, that vessels which used to come through the Sault Ste. Marie Canal when there was only 12½ feet of water in it used to have

trouble in passing through that canal?—A. Not that I know of, after the bar was gone.

Q. Is that so with side-wheelers as well as with propellers?—A. No, sir; side-wheelers take more room.

Q. Do side-wheelers pass through the canal?—A. I do not know.

Q. Would it be impossible for side-wheelers to pass through it?—A. That would depend upon their width.

Mr. Davis remarked that there was but one side-wheeler on the lake.

Q. Is that so?—A. There is only side-wheeler there.

Q. Has that been so since 1874?—A. The Keweenaw used the canal for one or two seasons, and the City of Cleveland the next season. The steamer India is merely an excursion boat which goes in and out on Sundays.

Q. It seems from Mr. Williams's testimony that in 1878 he took two cuts out of the canal.—A. Yes.

Q. That must have been 60 or 70 feet wide?—A. Yes.

Q. Do you think that these two cuts were 70 feet wide?—A. From 60 to 70 feet.

Q. Can two large boats pass each other in a stream of water 50 feet wide?—A. Not 50 feet wide. The canal is 100 feet wide.

Q. Could they pass each other in a channel 60 feet wide with water enough to float them?—A. If there are two vessels of 30 feet wide each, and there is a 60 foot channel for them to pass each other, of course they would have to pass rather close; but there are 20 feet outside of each of them. They can spread out a little and then pass each other.

Q. But suppose when they spread out that they found only 10 feet of water?—A. The bulge of the boat corresponds with the berme of the canal.

Q. Is that so with all the boats?—A. Yes.

Q. Is it true, then, that two of the largest boats engaged in that trade on Lake Superior can pass each other in a strip of water 60 feet wide?—A. I do not say any such thing.

Q. Can they pass each other in a strip of water 70 feet wide?—A. I do not say any such thing. I say they can pass in our canal.

Q. What you mean to say is, that the canal does not need to be of the same depth for its whole width, and that they can pass each other even if it be shallower on either side of the center?—A. Yes; that is it.

Q. Still, they occasionally encounter piling, do they not?—A. Sometimes they take a sheer and bump into the piling. I remember the steamer Hodge, which is of medium tonnage, doing that. The wheelman, through carelessness in passing along, ran into the piling and tore away the timber work; and I fined him in damages.

Q. How did he come to do that?—A. Through carelessness.

Q. Was he passing another boat at the time?—A. Not that I know of; but I do know that he went into the timber and I charged him for it.

Q. And so you really understand that Portage Lake itself is a harbor of refuge?—A. Yes.

Q. And always has been?—A. Certainly.

Q. Your company did not make it a harbor of refuge?—A. No; it was a harbor of refuge before the canal was built.

Q. Do you mean to say that vessels habitually put into this canal, and thence into Portage Lake, in order to find refuge in a storm?—A. Yes, if they want to.

Q. How many times have you known that to occur in your experience of ten years?—A. I cannot say.

Q. Did you ever know it to occur twice?—A. Two or three times in a season.

Q. Do you mean to say that it occurs, season by season, on the average two or three different times?—A. In the fall of the year. I do not think they did it so much formerly as they do latterly.

Q. When did they commence doing it?—A. Within the last two or three years more especially.

Q. Then six or eight vessels, all told, have been into Portage Lake since the canal company built a harbor of refuge?—A. More may have come in; it is merely a matter of guess-work.

Q. Tell the committee how many vessels to the best of your knowledge and belief have ever come into Portage Lake to use it as a harbor of refuge since the canal was built—I mean through the Lake Superior end?—A. There may have been perhaps over twenty-five vessels.

Q. Did your canal ever pass one-quarter of twenty-five vessels coming into Portage Lage as a harbor of refuge?—A. I cannot say.

Q. Can you tell the name of one vessel that did it?—A. I cannot tell the names, but I know that vessels have come in.

Q. You said that you were astonished when the China and the Duluth came in at the time the Manistee was lost; what made you astonished?—A. Because it was such an awful storm. It was not only a wind storm but it was the coldest weather that ever occurred within my knowledge, with the thermometer below zero and with snow.

Q. How did the cold affect vessels in coming into the canal?—A. It did not affect them.

Q. Then why were you astonished at their coming in?—A. Because there was such a tremendous snow-storm.

Q. Was there much sea on at the time?—A. There was a very large sea on.

Q. I thought you said that the gale had subsided?—A. It had.

Q. What was the character of the sea?—A. A northwest sea.

Q. Was the gale from the northwest?—A. Yes, from the north and from the northwest.

Q. Was it not from the southwest instead of the northwest?—A. No, sir.

Q. Have you any record of it?—A. No. The wind was coming from a westerly direction.

Q. Do you not know that it was a southwest wind?—A. No, sir.

Q. The water at Eagle Harbor is very shoal, is it not?—A. No, sir.

Q. What is the depth there?—A. They have about 60 feet on the bar, or perhaps more.

Q. What is the depth of the harbor?—A. It is deep water.

Q. Is it not true that that harbor has, in places at least, only 10 feet of water?—A. No, unless you get near shore.

By Mr. DAVIS:

Q. You commence dredging there every season, just as soon as the ice permits, do you?—A. Yes, as soon as I get there, about the 8th or 10th of May.

Q. This bar of which you speak, where you dredged, where was it?—A. Between the ends of the piers and beyond.

Q. How far beyond the ends of the piers?—A. Extending about 300 feet out in the lake.

Mr. MCCARTER. Was Portage Lake accessible to vessels from Lake Superior before the canal was built?

The WITNESS. No, sir.

By Mr. REDINGTON:

Q. What is the depth of water in the harbor of Eagle River?—A. There is no harbor there.

Q. What is the depth of water over the bar there?—A. A variable quantity; sometimes 8 or 10 feet, and sometimes 12 feet, just as the sand works through in the storms.

Q. Do you know what the depth of water was at the time those coal boats you speak of passed over?—A. I do not know.

Q. It could not have been more than 12 feet, could it?—A. It may have been 13 feet. As I told you, the depth of the water there is a variable quantity.

Q. You do not know how much it was there at that time?—A. No, sir. These boats lay at anchor, and I suppose they could not unload there on account partly of the depth of water.

JOHN H. FORSTER recalled.

Mr. MCCARTER. You said on your cross-examination that you made some change in the piers on Lake Superior, as to their being splayed from the canal up, so that they did not conform to the original plan. Explain to the committee what you meant by that?

Mr. PAYSON. The witness's explanation was pretty full as to that matter.

Mr. MCCARTER. He gave the impression that the piers actually were of a different width from that called for under the specifications. The truth is that the piers were built precisely in accordance with the specifications.

Mr. PAYSON. I understand that the plan originally was to have divergent piers constructed, but that when the specifications were drawn and the construction commenced, the piers were changed to parallel piers 250 feet apart and projecting into the lake 900 feet. We all understood it so.

The WITNESS. If I said any such thing as Mr. McCarter has got the impression I said, it was in regard to this condemned pier on Plate O. Here [exhibiting on the map] is the condemned pier going out at an acute angle from the shore. I condemned that. This western pier [indicating] was put in a wrong position also. It was not according to the specification. I condemned it and brought it around so that the piers are now actually in accordance with the specifications.

By Mr. REDINGTON:

Q. You had a conversation with Governor Bagley. Did you want his certificate as to the final completion of the canal?—A. No, sir. As State engineer, instead of making a written report to Governor Bagley, as I had done to Governor Baldwin, I made a report to him in the executive department, verbally—a full report to him of all the circumstances.

Q. Did you ever have any conversation with Governor Bagley in reference to the completion of this canal, and as to whether he would certify to its completion?—A. I do not recollect; I may have had.

CHARLES D. BLANCHARD recalled.

By Mr. REDINGTON:

Question. I call your attention to the storm on the coast at the time the Manistee was lost. Did you, in your official capacity as inspector of hulls, have any occasion to investigate that storm? If so, please state

to the committee what you know about it, including the direction from which that storm came.—Answer. It was one of my duties, in conjunction with my associate, to investigate, as far as possible, the cause of the disaster to the Manistee. There was no survivor from the vessel, and, of course, we could only gain what information we could from the agent of the line of steamers and from others who had known as to the direction of the wind. The agent at Duluth, Mr. John Flynn, reported to us that the wind was southwest. Mr. John Trelease, agent of that line of boats at Hancock, reported that the wind was southwest, and my impression is that the written report of the owners of the steamer stated that the wind was southwest.

Q. Did you obtain any information in reference to the direction of that wind from the captains or officers of the other two steamers that finally made port?—A. I did not myself, but the agent at Hancock informed me that the masters of those two steamers informed him that the wind was from the southwest.

Q. All your information was to that effect?—A. Yes.

Q. With reference to the mouth of this canal, how would that storm coming from that direction pass; would it be a storm directly from the shore out?—A. The southwest wind blows diagonally to the mouth of the canal.

Q. What would be the effect of that wind on the water at the mouth of the canal, as to whether it would make a heavy sea?—A. It would not tend to create a heavy sea at the mouth of the canal.

EZRA T. WILLIAMS recalled.

By Mr. MONTGOMERY:

Question. Were you in the room when the witness Pryor was testifying in regard to the width of the cuts which you dredged in the canal in 1878 and 1879?—Answer. I was present a few minutes this afternoon; I was not present in the forenoon.

Q. His statement is substantially that you dredged within the mouth of the canal about 70 feet; what is there about that?—A. I do not think we did; but the only way that I have to get at this thing is our general way of estimating our work—that is, by the cuts.

Q. Suppose you made two cuts, how much did you dredge in all probability?—A. We would always calculate the width to be 25 feet to a cut—that is, so as to make a clean bottom and not leave a large ridge between two cuts. There would be naturally a little comb.

Mr. REDINGTON. Then practicably that would make a 25-foot channel?

The WITNESS. That is the way that we estimate it; we have another class of machines in which we make a 20-foot cut.

By Mr. MONTGOMERY:

Q. But this machine that you use you calculated would make a 25-foot cut?—A. Yes.

Q. And 50 feet for two cuts?—A. Yes.

Q. And 75 feet for three cuts?—A. Yes; calculating that our estimates are true, and we are very careful that we do not overestimate it.

By Mr. McCARTER:

Q. Does the width of the cut depend somewhat upon the depth of the [illegible] certainly.

[illegible] wider the cut?—A. Yes.

WASHINGTON, D. C., *April* 4, 1884.

N. H. HUTTON sworn and examined.

By Mr. MCCARTER:

Question. What is your profession?—Answer. Civil engineer.

Q. How long have you exercised that profession?—A. About thirty years.

Q. How are you now employed?—A. I am chief engineer of the harbor board of Baltimore, which is a municipal office, and I am also an assistant to General Craighill, of the Engineer Corps of the Army, in charge of the improvement of the Patapsco River.

Q. From your profession have you had experience in structures built in connection with water ways?—A. Yes, sir; that is my main experience.

Q. What is a breakwater?—A. A structure intended to break the effect of wave storms, or current action, and to produce still water.

Q. Have you ever seen the harbor at the mouth of Portage Lake Canal on Lake Superior?—A. No, sir.

Q. Look at this diagram, marked Exhibit N. These parallel lines [indicating] represent the Portage Lake Canal, and these other lines represent diverging piers continuing out in the manner represented there, and inclosing the entrance to the canal. Would or would not those structures (supposing them to be crib-work sunk down solid on both sides of the line there [indicating] and extending out 950 feet from the end of the canal into the lake) be called in engineering parlance a breakwater?—A. They would undoubtedly, irrespective of their methods of construction.

Q. What do you know about the tendency of the erection of such structures to cause shoal water at the entrance to them?—A. Their tendency generally is to cause shoal water at the entrance, unless there is a current passing through between them sufficient to clear away all deposit. The natural tendency of drift material driven by winds and waves against this structure would be to form a deposit.

Q. Have you any knowledge of piers substantially parallel like these being built at the mouths of canals or harbors or water courses?—A. Yes, sir; I know them from reports and plans.

Q. What is your judgment and knowledge, as an engineer, as to the necessity of dredging in such places?—A. It is an almost inevitable necessity. It follows in almost all cases that I know of.

Q. Suppose you were given, as an engineer, the definition of a canal, the only description being that it should be 100 feet wide and 13 feet deep, what idea would you, as an engineer, derive from that description as to the width of the canal in the bottom?—A. I should suppose, if only one width was specified, that being the top width, that the bottom width would be such as would remain after the walls were properly sloped, depending upon the material out of which the canal was excavated.

Q. What would be the proper slope in ordinary material?—A. About 1½ to 1; that is, for every foot vertical there would be about 1½ feet horizontal slope.

Q. With a canal 100 feet wide and 13 feet deep how much width would there be at the bottom, with that slope?—A. About 61 feet.

By Mr. MONTGOMERY:

Q. Is it customary nowadays to build ship-canals with vertical walls or with sloping walls?—A. It depends entirely on circumstances. The

sloping natural bank, of course, is much cheaper than vertical walls, which have to be sustained either by stone or timber, except the canal was excavated through rock or other very tenacious material.

Q. Suppose the specification required that the walls should be protected by sheet-piling, what would you understand that to mean, as to whether the walls should be vertical or sloping?—A. I should understand it to mean vertical walls.

Q. Suppose you were called upon to build this sort of structure by law: "That said ship-canal shall be at least 100 feet in width with a depth of water not less than 13 feet"; and suppose that there added specifications requiring you to protect the walls of the canal by piling and sheet-piling, what would you understand you were to do? What sort of a canal would you dig, how deep, and in what shape?—A. The shape would be a rectangular prism, inevitably. If the sheet-piling were vertical the width of the canal would be similar on top and bottom.

Q. You would understand from those instructions that you were to excavate a place 100 feet wide with a depth of water of 13 feet over the entire surface, and then were to protect the walls in the way that I have indicated?—A. The protection might either follow or precede the excavation; but when the result was obtained it would be as I state.

Q. You say, on the hypothesis assumed by my friend on the other side, that this would be no doubt a breakwater; that is, a canal built out to the water-line 100 feet wide and then extending 250 feet to deep water, and this secured by cribbing. That would be an undoubted breakwater within your definition. With a proper breakwater, however, the piers should extend into deep water so that there would be no danger of vessels running aground when they come inside?—A. The water inside the breakwater should be undoubtedly as deep as the canal.

Q. Should it not be considerably deeper than the canal?—A. I do not see any particular necessity.

Q. Suppose that you were building a canal to accommodate the navigation of the Upper Lakes, the great chain of lakes, navigated by deep-draught vessels (there are vessels there drawing 12, 12½, and 13 feet of water), how much water should you think you must have at the end of the piers before you stopped extending them?—A. I should think that, for vessels drawing 13 feet of water, there should be 15 feet at the end of the piers.

Q. Do I understand you to say that you think the same quantity of water at the entrance of the harbor would suffice as in the canal itself?—A. I should imagine that, right at the entrance of the piers, it would not be necessary that there should be a great excess of water.

Q. The very purpose of constructing breakwaters is to produce still water, is it not?—A. Yes.

Q. When a vessel gets into still water she does not need so much depth of water as while she is outside?—A. Certainly not.

Q. Until a vessel gets within the breakwater she must expect to have a sea?—A. Certainly; the deeper the sea, the greater the violence of the waves, and the more difficulty in a vessel entering. It is more difficult for a vessel to enter in very deep water than in comparatively shallow water.

Q Were you ever a practical navigator?—A. I cannot profess to be a navigator.

Q. Do you not know that the opinion prevails among sea-going men that they cannot very well have too much depth of water at the entrance

of a harbor, and that shoal entrances are a great trouble about entering harbors?—A. Undoubtedly.

Q. Suppose it were absolutely necessary for the proper construction of a proper harbor for piers to go out until from 20 to 25 feet of water was reached. If the breakwater is all properly and substantially constructed, as it ought to be, is there any danger then of a bar forming across the mouth?—A. I should think that ultimately a bar would come.

Q. Where would the deposit come from?—A. From the littoral drift along the shore.

Q. But if the breakwater was 900 or 1,000 or 1,100 feet from the shore, how would the sand which makes the bar get into the mouth of the breakwater?—A. Sand has a very mysterious way, or practice, of getting out by gradual accretion.

Q. Conceding the walls of the breakwater to be imperfect, or conceding them to be constructed so that the sand drifts through at will into the canal, and conceding that the prevailing current in the canal is outward, would not these facts explain precisely why a bar was formed at the mouth?—A. If there was an outward current there, I do not suppose that the immediate entrance would be choked, unless the current was not sufficiently strong to carry away the deposit which inevitably comes around the piers.

Q. Assuming that the canal at the shore line is 100 feet wide and that it widens and extends by piers out until some 21 feet depth of water is reached some 950 feet out; suppose, also, that the canal on either side, where it is 100 feet wide in shore, has high banks of sand on each side, and that this sand drifts through very rapidly on either side into the canal, filling up the canal very rapidly; and suppose that the prevailing current comes from in shore and runs outward into Lake Superior. When that current strikes the open sea it will be likely, will it not, to deposit the sand about the mouth of the piers?—A. I should suppose so.

Q. If the piers were properly constructed so that no drift could get inside of them; if they were actually protected against sand drift and ran out to 20 feet depth of water, would it not be wholly impossible to have a bar of sand form across the mouth of the piers?—A. The filling to which you allude would hardly occur from any drift through this structure. It is caused by the sand moving down the shore and being stopped by this structure and gradually making its way until it gets to the end of the structure and runs around the end of it.

Q. You do not find sand moving out in deep water, do you?—A. It would not be deep water at the end of the pier by the time the sand commenced to shoal there. It would have formed a high bar in here [indicating on the map] before it commenced to deposit there [indicating]. In other words, it would alter the beach. The shore line would gradually work its way out.

Q. What do you mean by the shore line?—A. The line of low water.

Q. Suppose the ends of these piers to be in 21 feet of water, how long a time would it ordinarily take to construct a bar across their mouth in the way that you suggest?—A. It is impossible to answer. It would depend entirely upon local conditions, upon the winds and currents, the character of the bottom, and upon a variety of other circumstances.

Q. How would you protect that sort of harbor in order to prevent the formation of a bar?—A. Usually the custom has been to extend the bars, so long as that was found to be the cheapest way, and then to dredge.

Q. How often are they compelled to substitute the extension of piers

for dredging in the ship-canals of which you have had any experience?—A. I have had no experience in ship-canals. The principal trouble is found on the lakes, and is expected to be found at the mouth of the Mississippi—of which, however, I have no personal experience. I know, from the reports concerning these matters, that that has been the trouble in all these places; and in a great many of those, mostly all of them, they have dredged for a certain length of time and then have extended the piers until it was found that it was cheaper to dredge than to extend the piers. It is a mere question of economy.

Q. What is the purpose of extending the piers?—A. To keep up the depth of water required.

Mr. PAYSON. When it is cheaper to extend piers than to keep up constant dredging, they discontinue the dredging and extend the piers?

The WITNESS. Yes; it is a mere question of economy.

By Mr. MONTGOMERY:

Q. The purpose being to secure a permanent and safe entrance to the harbor?—A. Yes.

Q. Would you regard a ship-canal and harbor leading thereto that was only navigable through the months of July, August, September, October, and November, as a successful ship-canal and harbor?—A. Not ordinarily.

Q. Would you regard a ship-canal, which was not in a condition to receive vessels of large draught until late in the month of June each year, as a successful and proper harbor of entrance to a ship-canal?—A. I should consider that there was something wrong, if the delay arose from the canal, and not from climatic conditions.

Q. Would it have been easy to prevent that difficulty, in the first place, by extending the piers to a sufficient depth of water?—A. The distance necessary to accomplish that sufficient depth is constantly changing, ordinarily.

Q. It certainly is possible to go out far enough so as not to have to spend one or two months each spring in dredging a bar, is it not?—A. Without any money limits?

Q. Within reasonable money limits.—A. That depends upon circumstances. I should think not in the lakes, or in any place where there was this littoral drift of material.

Q. Do you know anything about littoral drift at this place?—A. No, sir.

Q. Did you ever see Major Robert's report about this canal?—A. I do not think I have seen it.

Q. You do not think that you have had your attention called to Major Robert's report about this particular canal?—A. No. I was asked as to whether I considered this structure a breakwater or not. I have not read Major Robert's report.

Q. Do you know Major Robert?—A. Only by reputation.

Q. You know that he is connected with the Engineer Corps of the Army?—A. Yes.

Q. You have already told us that the language which I have given you in my hypothetical question would convey to your mind the impression that it meant a canal having 100 feet of surface, with 13 feet depth of water and vertical walls. Now, I ask your attention to one clause of Major Robert's report: "The real need at this point" (speaking of the entrance to the harbor) "is increased facility for entering the canal. This I think can be most readily attained by adopting something like the plan which I suggested in my report of May 18, 1876, on

Capt. Frank Barr's letter on the lake harbor works, as a remedy for the evil of narrow entrance to these harbors. The piers at the Portage Lake entrance should be extended about 330 feet, so as to reach 18 feet of water, costing about $70,000; and the extra expense of widening at the same time the entrance from 250 to 400 feet would not exceed $5,500. The widening of the entrance by this method will not, I think, increase the disturbance of the channel, while it doubles the ease with which vessels can enter the canal." Do you agree with that?—A. I could hardly express an opinion at present; I have not investigated the matter sufficiently.

Q. The fact is you cannot tell about the occasion of those deposits or what would be likely to occasion them, nor can you tell how far these piers ought to be extended, or very much about the matter, except to answer abstract questions, unless you saw the work itself?—A. No; I could not answer questions in detail as to the cost or desirability, or possibility of vessels entering, unless I gave the matter further consideration. I can simply state my general opinion with reference to the method in which bars are formed in such locations.

Q. As a general rule?—A. Yes.

Q. I will read you another paragraph from this same report:

I do not think the entrance to the canal can be said to be completed until the piers are extended to a depth of water equal to that which is considered necessary at the harbors constructed by the United States.

What depth is that?—A. I have not the slightest idea. I presume it depends upon the navigation to be accommodated.

Mr. MONTGOMERY. I did not know but there was some arbitrary rule on the subject.

The WITNESS. I never heard of any.

Mr. MONTGOMERY (continuing to read):

If, this was done, a great deal of the difficulty experienced in entering the canal would disappear.

Do you agree with that?

The WITNESS. Assuming that there is not a sufficient depth of water there now, it would follow.

Q. Are you willing to agree with Major Robert that the entrance to the harbor should be covered by a much greater depth of water, perhaps twice as great as is found there now?—A. No, sir. But I do not wish you to understand me that I do not think the more water, the better.

Q. Suppose a vessel were entering the harbor in rough weather, when a vessel has got to pitch more or less, is there not imminent danger of a vessel pitching in that way so that they will lose control of her, and that she will strike against the piers?—A. That danger exists in entering any harbor of refuge, if the entrance is narrow enough to make it a harbor of refuge.

Q. Is not that danger greatly increased by shoal water, even though there be enough to float the vessel?—A. I hardly think so, particularly as to sailing vessels.

Q. Is it not a fact that vessels cannot be controlled as well in shoal water as in deep water; that they do not mind their helm so well?—A. That is true to a certain extent.

Q. In that way the danger would be increased, would it not?—A. Of course.

Mr. MONTGOMERY. I read another sentence from Major Robert's report:

This lack of depth of water at the head of the canal is, in my judgment, the greatest difficulty at this point, and the remedy is for the canal company to complete the work to aid which the United States donated 400,000 acres of land.

Do you not suppose that Major Robert means that if the piers had gone out until deep enough water was found, the chief difficulty would have been obviated?

The WITNESS. Undoubtedly.

Q. And do you not agree with that?—A. Undoubtedly. The work should have gone on until they got water enough.

Q. It is in evidence already that they found 21 feet of water at the place where they stopped building the piers. Do you think that that was enough?

Mr. VAN EATON. Connected with that question you should also state that only 13 feet of water was required in the canal.

Mr. MONTGOMERY. I suppose that the witness understands that.

The WITNESS. I was about to say that with 13 feet of water in the canal I should think that 21 feet of water outside was extremely liberal.

Q. You think that enough water?—A. A great deal more than enough.

Q. Would it not depend upon the character of the ground and the surrounding shore?—A. No, sir.

Q. And also upon the walls of the canal, and what piers were constructed?—A. I do not think that that has any bearing upon the matter. It might have as to the permanency with which that depth of water could be kept, but not as to the effect upon a vessel.

Q. You think that a canal which was only required to be 13 feet in depth is pretty well accommodated if there are 21 feet of water outside, provided that the canal be built otherwise well?—A. I should think it was remarkably well accommodated.

By Mr. REDINGTON:

Q. Suppose that the canal company was required to build a harbor and breakwater and ship canal, the canal to be 100 feet wide and 13 feet deep; and assuming further that that canal was constructed, and wholly constructed, by excavating a channel 13 feet deep in the middle of the canal, and decreasing in depth gradually towards the side walls; and assuming further that the walls of the canal were so protected as, each year, to allow deposits of sand and gravel to sift through them into the bed of the canal, which sand and gravel was yearly carried out to the end of the piers, and there deposited in a shoal from 1 to 3 feet thick, which shoal was required to be dredged every year before vessels of deep draught could pass it; and assuming that that dredging every year occupied a month, or about a month, and that for that time the traffic of the canal was interrupted for such vessels; assuming all that to be true, I want to ask you two questions: First, in your judgment did that work make a harbor sufficient to accommodate deep-draught vessels?—A. I do not understand your question exactly as to the harbor. You have described the construction of a certain water-way, without any reference to a harbor, and certain imperfections of construction in the piers. In reference to the harbor, do you wish me to say whether the formation of the pier would obstruct the harbor or not?

Q. If I omitted that, I will add it. From the shore end of the canal there were built two piers, there being at the end of the piers 21 feet of water. To produce the conditions which I have stated, and assuming that no other work was done anywhere around there to make a harbor, tell me whether that constitutes a harbor sufficient to accommodate the class of navigation contemplated for traversing a 13-foot canal?—A. The obstruction of the entrance by a bar, of course would prevent its being used.

Q. To that extent, then, it is not an available harbor?—A. Undoubtedly not, if the vessels cannot get in.

Q. I ask you another question on that same hypothetical state of facts: Would that have been a proper completion of a canal 13 feet deep and 100 feet wide?—A. That is a very general term, "the proper construction of a canal." Of course, if the canal did not fulfill its office, and if it filled up by sand working through the piers and forming a bar at the mouth of the entrance, it was not a proper construction.

Q. Was it a proper construction of a canal and breakwater and harbor?—A. I shall answer that question in the same way. If it would not perform the office for which it was built, it was not properly constructed.

By Mr. MONTGOMERY:

Q. It was a failure to that extent?—A. There can hardly be any other conclusion.

Q. Supposing there had been built half a mile out in the lake opposite the mouth of these piers a breakwater, either straight or in the form of a crescent, covering the ends of the piers, the end of the breakwater extending in each direction beyond the pier on its respective side, what would be the effect of that work on the water running between it and the mouth of the piers?—A. The breakwater would have caused the water near the mouth of the piers to be more calm than otherwise.

Q. It would have created a lee between it and the piers?—A. It would have created a lee in a certain direction; not in all directions.

By Mr. MCCARTER:

Q. How would such a breakwater as was supposed by the last question operate as to the ease of the entrance of the canal in bad weather?—A. It would render the entrance much more difficult.

Q. Referring again to Major Robert's report, to which your attention as been called, I read:

> The placing of a breakwater to cover the head of the canal would do nearly as much harm as good, because, while it might make the water smoother, it would cut off the straight approach to the canal, and thus increase the difficulty of making the entrance. The vessel captains, I understand, do not think that such an "improvement" would be any improvement at all.

How does your opinion agree with, or dissent from, that opinion of Major Robert, and of the vessel captains?—A. My opinion is entirely in accord with that.

Q. Look at the diagram Exhibit T [placing it before the witness], and listen to the following specification:

> The prism of the canal to be at least 100 feet wide between the side walls, which are to be perpendicular, and 13 feet deep, with a berme or offset 10 feet from face of docking timber to foot of slope of bank. There shall be a triangular toe or slope of bank left in the bottom angle to hold and support the sheet-piling, not more than 6 nor less than 5 feet high above bottom, with a slope not flatter than 1½ horizontal to 1 perpendicular.

How does that diagram, so far as you can judge, correspond with such a specification as that?—A. The general construction is exactly in accordance with the specification. As to the slopes, of course there are no figures showing them.

Q. Suppose the only requirement in the act of Congress is that the canal shall be 100 feet wide and 13 feet deep; and suppose a structure such as is represented by this cross section [indicating] was built under this specification, so that when completed the canal was 80 feet wide on the

bottom between the toes, and was dredged out to a depth of 14 feet on that 80 feet wide; what would you say as to whether a canal thus constructed fulfilled that specification?—A. I should say that it did.

Q. You should say that it was a compliance with the act of Congress which only prescribed a canal 100 feet wide and 13 feet deep?—A. I should think so; yes.

Q. Assuming, now, that this canal, 100 feet wide at the shore line, having a waterway 13 feet deep, terminated in such an opening or structure as is manifested by this diagram, Exhibit N, extending out 950 feet, the water varying in depth from 18 to 22 feet between the piers, and with a channel way of 14 feet within the canal, would such an arrangement constitute a canal, harbor, and breakwater?—A. I think so; yes.

Q. Suppose, further, that with piers constructed in the manner described, 250 feet apart, and reaching on the 1st of December, 1873, a depth of 21 feet of water, there should be discovered 6 years afterwards, in 1879, that at the end of the piers where, when the work was completed, there was 21 feet of water, it had shoaled to 12 or 13 feet at a point where there was no navigation (that is, where the piers abutted on the water); to what would you attribute that change of depth at the end of the piers?—A. I should attribute it to the movement of materials down the shore.

Q. Now, suppose, with these conditions, that you extended these piers still further out, going again to water 18 feet deep where the piers abut upon the water; what would you expect to result from that extension in course of time?—A. I should expect the same filling to occur, unless there were some peculiar topographical features and directions of currents which, after the materials got to a certain point, were strong enough to keep them out.

Q. Does your knowledge and acquaintance with the subject lead you to this opinion generally as to the structures of this character built out into the water?—A. It does.

Mr. PAYSON. This diagram shows piers constructed of timber, and cribs projecting from the canal into the lake, the distance between the piers being 250 feet, and the piers projecting 950 feet into the lake. Would the area of water thus inclosed be deemed, in technical parlance, a harbor?

The WITNESS. Yes; it would be deemed a harbor.

Mr. PAYSON. I do not say a harbor of refuge, but a harbor.

The WITNESS. Undoubtedly.

Mr. VAN EATON. Did I understand you to say that sometimes, in reference to piers, or breakwaters, or whatever they are called, it becomes a question of economy whether shoaling shall be prevented by extending them out or by leaving them as they are, and depending upon dredging; and that whatever is considered most economical is done? Did I understand you right in that?

The WITNESS. Yes.

By Mr. REDINGTON:

Q. I want to add to the assumption of facts on which you answered my last hypothetical question, the following: Assuming that the shoal of water which you find at the end of the piers, had been caused by the drifting of sand through the piles in the canal inside of the shore line, and which yearly had been carried out and deposited, would that change your opinion with reference to the action of the water along the lake shore in making the deposit?—A. No, sir; not on general prin-

ciples. It might in this case, of course, if the material removed would show that that had added to the bar.

Q. Suppose you knew that that was the fact, and that you were called upon to answer the hypothetical question put to you, would it have any effect upon you in regard to your statement that, in your judgment, the shoal there must have been caused by the sand drifting down the coast?—A. It would not affect my judgment that a shoal would be formed there; but as to whether the whole shoal would be formed in that way, it would affect my opinion.

Q. Do I understand you to say that you have no personal knowledge of the locality?—A. Not at all. I am acquainted with the reports of all the officers who have built works on the lakes.

Q. Are you acquainted with the works personally?—A. No, sir.

Q. Have you ever seen any of them?—A. I have seen many of them in passing by.

Q. But not to inspect them so as to ascertain the character of the work as regards the needs of navigation?—A. No, sir.

Q. You say that it would be more difficult for vessels to enter the mouth of this canal after the construction of an outside breakwater than it would before. What do you mean by that? Would the difficulty be in coming down around the end of the breakwater and inside of the harbor?—A. It would consist in the necessity of making another turn to get into the harbor. Vessels would have two turns to make where probably they would not be able to even make one.

Q. Suppose that the entrance to this harbor was an insufficient one, or a dangerous one, to be attempted by vessels in rough weather, would not the difficulty and danger of getting in there in rough weather be lessened if it could be attempted in still water?—A. If vessels could keep their straight course right between the piers, of course there would be less difficulty than with rough water.

Q. Would there be any difficulty in vessels getting right across to the piers in still water, if they once got in?—A. If the construction which you refer to at the head of the piers was built close enough to the piers to have any effect, vessels could not posssibly get in straight. If it was built so far off that vessels could sail straight into the piers, then I imagine that it would be so far off, or would have to be such a firm structure that it could not produce any appreciable effect.

Q. Suppose it was half a mile off?—A. I should suppose that, unless it was a very long structure and a very high one, it would not produce any appreciable effect; it would produce some effect, of course.

Q. Have you seen the breakwater at the mouth of the Chicago River?—A. Yes.

Q. That breakwater produces a harbor of refuge, does it not, in which vessels can come in and anchor in the worst storms?—A. I believe so.

Q. Have you seen the breakwater at Cleveland?—A. I have not; I have not been there for a great many years.

By Mr. MONTGOMERY:

Q. Supposing that the piers are sheet-piled in such a way that the sand drifts through them very freely on both sides, and is deposited in the canal; something must become of that sand, must it not? Now, supposing the prevailing current of water is outward toward the lake, then more or less of the sand must find its way out there, must it not?—A. Yes; if there is sufficient current to move it. It must either remain in the canal or be carried out.

Q. Suppose there is current enough so that the peculiarly colored water of Portage Lake finds its way through the canal into Lake Superior, then more or less of the sand must go with that water, and that sand would be naturally deposited at the mouth of the piers, or near there. Is not that so?—A. The sand would commence to be deposited, and as soon as the current slackened by encountering the large body of water, the sand would be deposited.

Q. I understand it to be your theory that, as the sand drifts up against the structure, it finds its way down gradually to the end of the piers, and thence around the piers, until it forms a bar across the mouth. Is there not some way to prevent that; might it not be easily prevented?—A. Not easily.

Q. It follows down the structure until it comes to the end of the pier, and then it drifts around the mouth. Could not that be stopped easily?—A. It could be stopped temporarily by extending the pier.

Q. Could it not be stopped so that the mouth would not fill up for years by building strong wings?—A. I do not think that would affect it very materially; it might in some cases.

Q. If the sand finds its way little by little until it comes to the end of the piers, then if a wing were built high enough and strong enough to stop the sand and to hold it, that would stop it from getting into the channel, would it not?—A. No; it would drift around the wings. The wings must have an end.

Q. But until the sand comes to the end of the wings, it must have that effect?—A. Oh, yes; no doubt of that.

Mr. REDINGTON. Does sand drift at all in 20 feet of water?

The WITNESS. I hardly suppose it would.

By Mr. DAVIS:

Q. Suppose that between the piers the current is as frequently from Lake Superior into the canal as it is from the canal into Lake Superior; and suppose that experience shows that very little dredging is required to be done in the canal, as compared with the amount to be done between and outside the piers; what would be your conclusion about the sand that causes this bar outside of the piers coming in through the sheet-piling?—A. I should suppose that the bar was formed by the action I have referred to, rather than by sand coming in through the canal.

Q. You would think it was not formed by sand coming through the sheet-piling?—A. I should think not.

Q. Suppose that the sand which comes through the sheet-piling, and which is found near it and is dredged out of the canal, is sand and clay, and that the sand outside is grit sand, what would be your opinion then as to where that sand came from—from the sheet-piling or around the end of the pier?—A. I should suppose that it came from the lake.

Q. Would the fact not be quite conclusive on that point?—A. I should think so.

JOHN M. WILSON sworn and examined.

By Mr. MCCARTER:

Question. What is your employment?—Answer. I am major in the Corps of Engineers, and am brevet colonel in the United States Army.

Q. What particular service are you now engaged in?—A. I am on duty in the office of the Chief Engineer, in Washington.

Q. How long have you been an engineer?—A. I graduated in the

Military Academy in June, 1860, and was transferred to the Corps of Engineers in 1863. After the close of the war I was on engineer work altogether up to 1882, when I came into the office of the Chief Engineer.

Q. Has your occupation and profession given you a professional acquaintance with canals, harbors, and constructions of that kind?—A. Yes.

Q. What is a breakwater?—A. It is a structure built to break the action of the sea.

Q. Look at this diagram [showing witness Exhibit N]. It is a copy of the map accompanying the report of Major Robert, prepared by his assistant, Mr. Schermerhorn. The parallel lines represent the Portage Lake Ship-Canal, 100 feet in width, as it approaches the shore line. These diverging piers [indicating] are about 150 feet in length, and are parallel piers, commencing at this point [indicating] and running out into the lake; so that the whole distance from the shore to the end of these piers is 950 feet. The width between the piers is 250 feet. These piers are solid crib work filled with stone, commencing a little distance within the shore line and running out to the end, sheltering the entrance to the canal. What would you call these structures—as to whether they are a breakwater or not?—A. I would call them a breakwater; they break the action of the sea.

Q. Given an act of Congress which requires a canal to be constructed 100 feet wide on top, and 13 feet deep, with no other dimensions or specifications, what width of bottom would an engineer understand to be required by such specification?—A. It would depend entirely upon the character of material through which the canal is cut.

Q. Illustrate how.—A. In the case of a canal cut through rock, an engineer, as a rule, would cut the same width from top to bottom. In case of any material as clay or sand, he would make the side walls slope from 1½ to 1.

Q. What width would the allowance of that slope give on the bottom for a structure of this kind, taking the width as 100 and the depth as 13 feet?—A. If it was a good stiff clay, I would calculate that the bottom would be from 70 to 74 feet in width; if it was in sand, I would make it less wide.

Mr SHAW (to Mr. McCarter). In putting your question I understood you to use the words "at top" in connection with the width of the canal. I have had trouble myself in construing the act of Congress on this subject—whether Congress meant to legislate for a ditch that should be 100 feet wide, and built in ditch fashion, or whether it meant that the ship-canal should be 100 feet wide all the way through.

Mr. VAN EATON. I do not see any way of getting at that question here, as to the meaning of the act of Congress; let the words of the act be read to the witness.

Mr. MCCARTER (reading). "And provided further that said ship-canal shall be at least 100 feet in width, with a depth of water not less than 13 feet."

Mr. VAN EATON. Now, I understand Mr. Shaw's question to be as to what that means.

The WITNESS. I never was able to tell what Congress did mean in an act. I do not want to volunteer any explanation of this; but if the question were asked me what I thought it meant I could answer it.

Mr. PAYSON. As an engineer what do you think that the words meant?

The WITNESS. I should think it meant 100 feet at the top.

Mr. PAYSON. And with such a slope as you have described?

The WITNESS. Yes.

Mr. PAYSON. Varying with the character of the soil through which it was excavated?

The WITNESS. Yes.

By Mr. SHAW:

Q. Did I understand you to say that if this cut were made in sand the slope would be greater in a sandy soil than in a clayey soil?—A. Yes; because sand moves more readily and easily.

Q. How would the width of the canal at the bottom differ if it was cut in a sandy soil or a clayey soil?—A. If I were ordered to construct a canal through sand or through clay I should make the slope of the canal through sand at least double that of the one through clay.

Q. What width would that leave at the bottom of the canal then?—A. About 44 feet.

Q. Would that be a ship-canal?—A. Yes, it would.

By Mr. McCARTER:

Q. Can you tell as to what the effect of the erection of such piers as I have described and shown in this diagram would have on the shoaling of water about the entrance?—A. Yes.

Q. What would be your judgment about that?—A. That the water would shoal at the entrance.

Q. And what would cause it?—A. That would depend entirely upon the location of the pier. I have never been at Portage Lake. If you can put a question to me in regard to any works of a similar character of which I have charge, I can tell the reasons. Take the case of a harbor on Lake Erie, for instance, where the littoral current is from west to east, or toward the Niagara River. The tendency of the sand along the coast is to pass down and accumulate on the west side of the piers, which are about the middle, or west of the lake, and on the east side of the piers on the other side. The storms (from the west, particularly) driving the heavy sea along, the sea erodes the shore, bringing this sand down and piles it up against the pier, which is on the side of the prevailing wind; and that sand, by degrees, is passed through the piled protection (if it is a piled pier) or around the crib-work (if it is a crib-work), and eventually swings around the end of the pier and forms at the entrance of the harbor. I have had 8 years' experience in works of that character.

By Mr. REDINGTON:

Q. Have you any acquaintance with the vessels that navigate these upper lakes, as to their size?—A. Yes.

Q. What is the ordinary width of these deep-draught vessels?—A. I have not been interested in their width, but always in their depth. That is what I have been after in regard to them.

Q. Do you know the Sault Ste. Marie Canal in Michigan?—A. Yes; I have been there.

Q. You know that up to a few years ago that canal had only a depth of 12 feet of water?—A. Yes.

Q. And it has recently been enlarged so that deeper-draught boats can pass?—A. Yes.

Q. Do you know what is the width of the deepest vessel that navigates the lakes?—A. No, sir.

Q. Assuming that they run from 32 to 35 feet in width, would you call a canal built in the way you suggest a ship-canal for the passage of

such boats as those?—A. I think such a vessel could not navigate through it, but could be towed through it.

Q. Can two vessels of that size pass each other in such a canal?—A. No, sir.

Q. That is a physical impossibility?—A. It is a physical impossibility.

Q. Your attention has been called to the two piers delineated on that Exhibit N. What, in a technical sense, constitutes or makes a harbor?—A. The smooth water between the piers.

Q. Now, suppose you should be told, and shall assume the fact to be, that the piers, as constructed, do not make smooth water or calm water between them so that at all times these deep-draught vessels can, with safety, go in and come out in a storm, would you still call it a perfect harbor?—A. No, sir.

Q. It would be an imperfect harbor, to that extent?—A. Yes.

Q. If the act of Congress had required a harbor for the accommodation of such vessels, that would not be a fulfillment of the act, would it?—A. I told you before that I could never construe an act of Congress.

Q. I did not ask you to construe the language; the act contains the word "harbor"; we know what a harbor is; would that construction, completed in that way, be a harbor, provided that at all times, in case of rough weather, vessels were unable to pass in and out?—A. The acts of Congress provide for the construction of harbors all along the great lakes; when we construct those harbors in compliance with the act of Congress, we do not invariably have a harbor which can be entered at all times; on the contrary, vessels have very frequently been obliged to anchor outside.

Q. Suppose that the storm is such that vessels cannot anchor outside, would there be any harbor there at all?—A. No, sir.

Q. Suppose that work had been completed in the late fall of 1873—in October or November, 1873—ought there to have been, at the mouth of the piers, at the opening of the season of 1874, a shoal of sand 3 feet deep?

The WITNESS. Am I to understand that the depth of water had decreased 3 feet?

Mr. REDINGTON. Yes.

A. Such a thing I have seen frequently.

Q. Where the pier had been extended to a depth of water 21 feet in the first place, have you ever known an instance where, between the close of one season and the opening of the next, there had been deposited in 21 feet of water a shoal of sand lessening the depth of water by 3 feet?—A. No; for I have never seen piers built into 21 feet depth of water.

Mr. PAYSON. Why so?

The WITNESS. Because they have never been carried out beyond 16 or 17 feet, wherever I have seen them.

By Mr. REDINGTON:

Q. Suppose you should be sent out to such a point as that for the purpose of building a harbor with unlimited money, and unlimited as to the expenditure; in what way would you have constructed and set the piers like that, in order to make what, in your judgment, would be a perfect harbor?—A. That is a direct question to ask an engineer who never has been on the ground; I cannot answer it.

Q. What would you do under any circumstances in any place in building such a harbor, where you were unlimited as to expense?—A. When

we are instructed to construct a harbor, our professional reputation depends upon the result, and we are generally allowed a month or six weeks to study up the subject. I do not think that I should be required to answer that question.

Q. Have you been allowed a month or six weeks to study up the subject in giving the testimony you have given already?—A. No, sir.

Q. Give me your best experience as to the question which I ask you. Suppose you were sent out to the upper lakes to build a harbor at the mouth of a canal, and were not restricted in the use of money, how would you go to work to build that harbor?—A. In the first place, I would protect the entrance to the harbor by parallel piers, so that a vessel could enter. If, after I had been there a sufficient length of time to find that that harbor was not accessible, and if I had plenty of money, I should probably go out some distance beyond, and throw out a lunette-shaped breakwater, which would prevent the action of the sea from ever striking the mouth of this entrance.

Q. You would construct a breakwater in such manner as to prevent the piers being struck by the sea?—A. Yes; if I found that the harbor was not a success.

Q. In putting out the piers in the first instance, to what depth of water would you go?—A. I would go to a depth of water at least three feet greater than the draught of vessels that were then navigating the lakes.

Q. Suppose that that depth 3 feet greater would be 16 feet deep along the shores of any of the great lakes, would you leave the work in that condition, satisfied that you had constructed such a harbor as that sand would not shoal at the mouth of the piers?—A. Not at all.

Q. Would you expect it to shoal?—A. Certainly.

Q. In what length of time?—A. That is an indirect question which cannot be answered. I can give you a parallel case, where within two years sand has gone 400 feet and swung round the mouth of a harbor. Take, for instance, the harbor of Ashtabula.

Q. Would you expect to find at the mouth of the canal in the spring, after you had completed it, a shoal lessening the depth of water by 3 feet?—A. I would hope very much not to do so, but I would not be prepared to say that I would not do so.

Q. Assuming that a canal of this kind were built with piers extending out 950 feet, and supposing that the sheet-piling of the canal proper, inside of the shore-line, was so piled that every year the sand and gravel sifted through it, and that a current in the canal carried that sand and gravel out and deposited it at the mouth of the piers, and for a considerable distance outside of the piers, and also in between the piers every year, so that it required a month's dredging every season to make it navigable for boats of large draught, would you consider that a properly completed canal?—A. No, sir.

Mr. McCARTER. Suppose you were obliged to construct by law, according to plans and specifications, with the preparation of which you had nothing to do, a canal, and you should so construct it, and the result mentioned by Mr. Redington should follow, would that be the fault of the construction or the fault of the plan?

The WITNESS. I should consider it the fault of the plan.

Mr. REDINGTON. Suppose that your principal, who told you to do the work in that kind of a way, had been required to do it in some other way, do you suppose that he would be relieved from the responsibility?

The WITNESS. No, sir.

By Mr. DAVIS:

Q. Suppose that the sand which is found beyond out the breakwater is grit sand, and suppose that to the west of this pier the coast of the lake is all sand for 10 or 15 miles, with a sweep of winds from 50 to 60 miles an hour, and suppose that the sand through the sheet-piling is fine sand and clay, and suppose that you then found the bar to be composed of grit sand, where would you say that sand came from?—A. I should think it came from the coast of Lake Superior. If it were similar to the sand found there I would naturally think so.

Q. Suppose you found, on the outside of the pier, sand shoaled up clear out to the end, and you also found that more or less fine sand and clay did come through the sheet-piling of the canal, where would you say that that sand which formed the bar out 200 feet beyond the pier came from?—A. I should say that it came around the pier.

Q. Suppose that the current in the canal is as frequently into the canal as it is out of it, and that the sheet-piling, where the sand comes through, is at the entrance of the canal; and that, notwithstanding the current being in and out, a large proportion of the dredging is necessary outside of the canal, and very little necessary inside of the canal; where would you say this sand came from?—A. That question would depend, to a certain extent, upon the velocity of the current in the canal. If the velocity were sufficient to carry the sand out, I would know that it came from the inside.

Q. Suppose that the current were just as strong from the outside, rushing into the canal, as the current from the inside coming out of the canal, and suppose there was very little dredging in the canal, and that most of the dredging was outside of the canal, where would you say then that the sand came from?—A. From around the end of the piers.

Q. Does it require much of a current to move gravel 950 feet?—A. Yes, sir.

Q. Would sand and clay move slower, or faster, than grit sand?—A. It would move faster, if I understand your idea. The grit is a heavier and coarser sand, of course.

Q. Then the same current which would free a canal of the fine sand would not free it from the grit sand?—A. No, sir.

Q. The action of the waves beating into the mouth of the canal would carry in more or less sand, would it not? There being a bar outside, or shoal water outside, the action of the waves beating into the canal would carry in more or less sand?—A. That would depend entirely upon the depth of water.

Q. Suppose the water to be 15 feet deep.—A. I do not think it would carry it much beyond the immediate entrance.

Q. And would deposit it there?—A. I think so.

Q. If there was a canal 100 feet wide on the surface, and 80 feet wide on the bottom, and if the vessels navigating that canal were from 32 to 35 feet wide, would there be any difficulty in their using that canal?—A. I think they could be towed past each other without any trouble. I would not like to try to sail one past another.

Q. If a vessel were 32 feet wide on her decks, do you know what would be the ordinary proportion of dead rise from her keel up?—A. No, sir.

Q. Of course, if she is 32 feet wide on deck, she would not necessarily be 32 feet wide all the way down?—A. Of course not, at the keel; but some of the vessels that pass between Lake Erie and Lake Ontario are almost the same width up and down, until they get to the keel.

By Mr. MONTGOMERY:

Q. Mr. Davis asked you something about supposing that the currents

are the same both ways in this canal. I do not understand that the current can be running into the lake and out of the lake at the same time.—A. Of course not.

Q. If the current did discharge into the lake a part of the time—I mean if there was a substantial current running into the lake a part of the time, it would carry the sand with it, would it not?—A. Yes; if the current was sufficient.

Q. And the sand would be deposited, naturally, at the mouth of the canal?—A. Yes.

Q. If the current were the other way, would it affect the sand in 16 feet of water?—A. Not materially.

Q. Then it would not make much difference if the current were only half the time running into the lake. It would carry out all the sand and dirt, and deposit it at the mouth of the canal, would it not?—A. Yes; if the current had sufficient velocity.

Q. Is it not true that sand has not much effect at a depth of 15 feet of water?—A. That depends entirely upon the velocity of the current.

Q. To what depth is the water disturbed so that it affects and carries with it sand from the bottom?—A. Take the mouth of the Mississippi River; ordinarily, they adopt the use of vessels with screws, and the motion of the screws stirs up the sand, and the action of the current is sufficient to carry sand down.

Mr. PAYSON. At what depth?

The WITNESS. At a depth of 18 feet. In the Columbia River, at Saint Helen, there is a bar with 21 feet of water on one side of it and 21 feet on the other side. The bar forms there every season, of fine sand, making the depth 15 feet. Last year they took an ordinary steamship, and by working the paddles, the action of the current was sufficient to make a depth there of from 18 to 20 feet.

Q. You may stand upon the lake shore, and sea-waves come washing in. There is quite a sea there sometimes, and the water, gradually as you go out from the shore, becomes deeper and deeper. Into what depth of water must you get (supposing the bottom to be of sand) before you find it so deep that the sand will not be disturbed at all by the wash of the sea?—A. I can give you the action of heavy seas. And we have a statement to the effect that stones weighing 40 pounds have been moved in a depth of 20 feet at the Cherbourg breakwater during a heavy gale.

Q. What depth of water must there be above the sand so that the sand will not be, ordinarily (except in extreme cases), disturbed?—A. I am not prepared to answer that question directly; I should say 20 feet.

Q. Would you be surprised if somebody, in whose judgment you had confidence, should tell you that, at the depth of 12 feet, sand is very rarely disturbed by the action of water?—A. I would presume that the person had examined the matter carefully, and knew what he was talking about.

Q. Would you be surprised at that statement?—A. I would be very much surprised.

By Mr. DAVIS:

Q. Suppose sand were washed in through the canal—say 1,100 feet—to the end of the piers; how far would an ordinary current of two or three miles an hour carry that sand?—A. That sand would generally form just beyond the ends of the piers.

Q. And heavy waves on the outside would carry sand in between the piers, would they not?—A. They probably would—just about the mouth of the piers. I find almost invariably that our bars are formed, per-

haps, from 50 to 100 feet just beyond the ends of the piers, so that as the current goes out the velocity carries it to that distance.

Q. And your experience as an engineer is that in all breakwaters or harbors built by the United States there is more or less trouble with sand every year?—A. That has been my experience.

Q. And that they require more or less dredging?—A. Yes.

Q. Is it the custom of the United States to do the dredging?—A. We do the dredging sometimes in the hope of remedying the difficulty, and, after dredging for several years, we sometimes extend the piers.

Q. Does that always work?—A. It works for three or four years.

Q. And the same trouble follows?—A. It always follows.

Q. And you come back to dredging, after all?—A. Yes.

Q. As to entering harbors in a storm: Are there any harbors anywhere that can be entered in all kinds of storms?—A. I can tell you as to the harbor of refuge at Cleveland, Ohio. I had fifteen expert sailors, the best men that I could get on the lakes, and I told them to go out into the lake at various times, with the wind blowing from every possible direction, with heavy gales, and that they must make the harbor of refuge of Cleveland, or go ashore and all be drowned; and I told them to locate the piers so that they could make the harbor. This they could not do; but they did locate the piers in such a way that they thought they could get in at almost all times, and they claimed that if their plans were adopted they could get in at any time. They were universally of that opinion.

Q. Do they get in at any time?—A. The work is not entirely completed yet.

Q. Do you know of any other harbor where vessels can get in at any time?—A. No, sir.

Mr. PAYSON. What has been the success of that experiment at Cleveland up to the present time?

The WITNESS. There has been no trouble in vessels getting in, so far as I know, wherever they have attempted to get in.

By Mr. DAVIS:

Q. What did that harbor cost?—A. That harbor was estimated to cost $1,800,000. I built it for less than $1,000,000.

Q. As far as it has gone?—A. Yes. There was less than $900,000 expended when I left. The outer breakwater was being constructed, and the prolongation of the eastern pier was still to be constructed, which would bring the whole thing up to the cost of about $1,000,000, or $800,000 less than the estimate.

Mr. REDINGTON. At Cleveland there is a breakwater outside of the piers, is there?

The WITNESS. Yes; that is a harbor of refuge.

Mr. DAVIS. Built for that purpose?

The WITNESS. Yes.

Mr. PAYSON. How much area of water does it inclose?

The WITNESS. About 180 acres. There will be 160 acres, with a depth from 16 to 30 feet in that harbor, when completed.

Mr. McCarter exhibited to the committee a diagram in the fourth volume of the Encyclopædia Britannica, ninth edition, under the head of canals, the page opposite the diagram being 696, and the number of the plate being 36. He said that his object was to show a diagram of the mouth of the Suez Canal, on the Mediterranean Sea. It was composed of two piers, not parallel, but converging, and each one of them was marked "breakwater."

Mr. McCarter also called the attention of the committee to the report which was made to the House by the Committee on Public Lands, when the second act granting lands for this canal was passed. The report was found in the fifty-ninth volume of the Congressional Globe, page 3462, for the year 1866. He read extracts from it as follows:

Mr. DRIGGS, from the Committee on Public Lands, reported back Senate bill No. 193, granting lands to the State of Michigan to aid in the construction of a harbor and ship-canal at Portage Lake, Keweenaw Point, Lake Superior, in said State, with a recommendation that it do pass.

The bill was read.

Mr. DRIGGS. Mr. Speaker, the bill reported appropriates two hundred thousand acres of land to aid in the construction of a ship-canal to connect Portage Lake with Lake Superior at the base of Keweenaw Point in the State of Michigan, and provide a harbor of refuge at that exposed and dangerous point of navigation. The canal is to be 100 feet wide, 13 feet deep, and 2 miles and 600 feet long, with a capacious harbor at its junction with Lake Superior. The construction of these works will save nearly 300 miles of the most dangerous navigation on the Western Lakes around Keweenaw Point to every vessel making the round trip to the copper mines, or to other points on the headwaters of Lake Superior; a glance at the map will satisfy any person of this fact. It is an improvement, as all must admit, second to no other in importance to the commerce of the Northwestern Lakes, especially to that of Lake Superior, and demanded by all interested in it, for the greater security of life and property, the increased facility for expedition, and the reduction of cost in transporting the mineral and agricultural products of the vast country upon its borders and beyond, which must have an outlet through that greatest of all inland seas to the East and the Atlantic.

The national importance of this improvement—for it is by no means a local or State work in its character or benefits to be derivod from it—may be judged from the fact that eight States bordering on the Western Lakes and other States east of them are largely interested in the extensive commerce of those lakes.

* * * * * * *

The State of Michigan, within which the proposed improvements are located, and to the authorities of which their construction is necessarily confided, takes an interest in them commensurate with their national importance, although not more directly interested in them than several of her sister States, East and West. The legislature of that State at its last session by joint resolution has urged the adoption of the measure and requested its Senators and Representatives to use their best endeavors to secure its passage through this Congress.

The present able executive of Michigan, H. H. Crapo, under whose special supervision and direction the harbor and canal are to be constructed, after having made personal examination of the location and the work to be done, accompanied by a board of engineers, and had the necessary surveys and estimates made and decided upon his plan of construction, moved by the importance of the works, not only addressed an appeal to the Senators and Representatives from Michigan, but afterward came to Washington and called the Michigan delegation together to press upon them not only the importance of the works, but the justice of the appropriation asked for by the bill under consideration.

* * * * * * *

At the last session of Congress an appropriation of two hundred thousand acres of land was made for this improvement. This was not the amount then asked for it. In the judgment of the governor of Michigan, then expressed, more than twice that amount would be required. Subsequent investigations prove that the governor was right. But owing to the press of business on Congress and to the fact that no survey or accurate estimate of the cost of the works had then been made, the member on the committee from that State deemed it prudent to ask only the appropriation then made. From the engineer's report and estimate of cost of the works and the letter of Governor Crapo, laid before the Committee on Public Lands, it is ascertained that the canal and harbor will cost more than twice the sum estimated before any actual survey was made.

This additional expense over all former estimates is owing to the more extensive character of the works then originally contemplated. It is found necessary from the peculiar character of the soil through which the canal is to be made, and the great strength of the work constituting the harbor on Lake Superior made necessary by its exposure to the action of the lake, to adopt plans settled upon by the governor entirely different and far more expensive than originally contemplated. These plans require that both banks of the canal shall be made a continuous dock, by close-piling, by sheet-piling and counter-piling, or by other sufficient walls, from Lake Superior to Portage Lake, and that the harbor on Lake Superior shall be of a capacity, per-

manency, and construction to be accessible in any stress of weather to vessels on Lake Superior. The specifications for all this work have been laid before your committee by Governor Crapo.

* * * * * * *

Under this State law the surveys, estimates, &c., have been made and the plans adopted required by the former act of Congress referred to. The works have been commenced by the company to whom the State conferred the grant, and several thousand dollars expended thereon. But the plans adopted by the governor of Michigan exceed so much the previously estimated cost, that the company, acting under the advice and recommendation of the State authorities of Michigan, and sustained by many of the petitions heretofore referred to, appeal to Congress for the additional aid provided for by the bill before the House. The Committee on Public Lands, after thoroughly investigating the subject, have unanimously come to the conclusion and direct me to report.

I also happen to see, on the same page of the Congressional Globe, an allusion to Lac La Belle, which I will read:

Lac La Belle is a small inland lake of some 2 by 5 miles in extent, with an average depth of 27 feet of water. To afford an entrance from Lake Superior and Bete Grise to this lake it is only necessary to widen, deepen, and straighten a natural channel less than half a mile long. When this is done, and the proposed pier and breakwater at its entrance are completed, it will afford one of the best and safest harbors on this immense inland sea, and will secure a refuge at a point half way between Bayfield and Sault Ste. Marie, which now afford the only safe harbors, with the exception of Grand Island and Portage Lake, for a distance of four hundred miles, and these two harbors are a long distance out of the usual route taken by vessels in going to and returning from Ontonagon and the head of the lake.

Mr. Montgomery asked Mr. McCarter whether it was not true that the first act did not contemplate conferring the lands upon any company at all, but that the State of Michigan should do the work.

Mr. McCarter replied that the first act of Congress left the work to be constructed by the State of Michigan, either by the State's own agents or by a corporation created by the State, as the State might judge best.

Mr. PAYSON. Whatever may have been the original intention of Congress, it is pretty clear that when the second act was passed Congress recognized the existence of this canal company.

Mr. MCCARTER. Certainly. One of the sections of the second act grants and conveys to the Portage Lake Canal Company the lands.

I do not think I have anything more to offer on the subject of the construction of the canal. An expression in this report of the Committee on Public Lands shows that the committee at that time agreed with the governor of Michigan that the plans adopted would accomplish all the purposes which Congress supposed it would accomplish when the grant was originally made.

Mr. Payson asked Mr. Redington whether he had anything in the way of proof to present on that question.

Mr. Redington said he thought not, except that of course the committee would take cognizance of all the statutes of the State of Michigan and of the United States on the subject.

Mr. Payson answered affirmatively, and asked Mr. Redington whether all the authorities to which he desired to call the attention of the committee were contained in his printed pamphlet.

Mr. Davis said he thought so, but he had not examined the matter critically.

Mr. Davis asked Mr. Montgomery whether he would allow it to go on the record as admitted that the present owners of this canal property were not the same as the former owners, and that the present owners came into possession by the foreclosure of a mortgage issued by the old

company; that the present canal company originated in 1877, as a separate and distinct corporation, and had issued stock and sold land.

Mr, Redington declined to make the admission.

Mr. Davis said that he desired simply to save trouble in proving it; but that he did not think it of importance to spend time over it.

Mr. MONTGOMERY. Something was said yesterday on the subject of whether it was desirable for us to call some other proof, in order to show the condition of the canal, and whether it answered the purposes of navigation. We suggested that we should, perhaps, be allowed to call some ship captains. I understood the chairman of the subcommittee then to say that the subcommittee thought it hardly desirable to do that; but that, after the other side had made what showing it thought proper to make, it might perhaps be determined whether we should be allowed to send for more witnesses. The other side had given some proof on that subject—that of the witness Pryor, for instance.

Mr. McCarter stated that he had limited the re-examination of all his witnesses very much to the line which he had marked out—that of rebuttal.

Mr. Payson said that the door had not been opened sufficiently in the way of new evidence to justify the committee in departing from the rule fixed by the full committee, or to justify it in any further delay as to the character of proof. There would be now a postponement for ten days, except counsel might agree as to some shorter time.

Mr. Davis stated that they had agreed on both sides to suggest Wednesday, the 16th of April, as the day to which the adjournment should take place.

Mr. PAYSON. Then a week from next Wednesday the subcommittee will proceed with the hearing, except advised to the contrary by the full committee.

Mr. SHAW. Are we going to finish at that time?

Mr. PAYSON. That is understood. We cannot tell, of course, how long it may run when it is taken up. There is no limit on the time.

The matter was then adjourned until Wednesday, the 16th of April.

WASHINGTON, D. C., *April* 16, 1884.

Mr. Redington offered in evidence lists of the canal selections of land as shown in a transcript of the record in the case of George Jerome and Fernando C. Beaman, assignees, against Thomas N. McCarter, trustee, in the Supreme Court of the United States, which lists, by agreement between counsel, were introduced as true copies of the lists of the lands sold by the canal company under both grants—with the exception of lists 7, 8, and 9, certified copies of which were offered in manuscript.

Mr. Davis remarked that list No. 7 was under the first act and completed the first act.

Mr. Payson asked whether it was a supplement of the list in the printed volume.

Mr. Davis replied in the affirmative.

Mr. Redington remarked that, as he understood it, there were only two approved lists under the first act, the remainder of the lists being under the act of 1866. There was one of them in the printed book and one in manuscript.

Mr. Davis stated that the record in the book was first for 192,049

acres, and that list No. 2 under the act of 1865 was also printed in the book.

Mr. REDINGTON. Then we have in this book [indicating] the complete lists of lands taken by the canal company under the act of 1865, and, with the book and manuscript, we have the complete list under the act of 1860.

Mr. Payson inquired whether list No. 7 in manuscript did not appear in the printed book of selections.

Mr. Redington replied that it did.

AMBROSE CAMPBELL sworn and examined.

By Mr. REDINGTON:

Question. Where do you reside?—Answer. In Marquette, Mich.

Q. How long have you resided there?—A. I call myself a resident there since October, 1855.

Q. You were at one time register of the United States land office at that point?—A. Yes.

Q. When were you appointed to that position?—A. I think my appointment was made in January, 1868, but I did not take charge of the office until the first of April, 1868.

Q. And you took charge of the office in April, 1868?—A. That is my recollection.

Q. How long did you remain in the office?—A. I was register until the fore part of 1879. I resigned in July, 1878, but was not relieved for several months afterwards—until the fore part of 1879; I cannot say positively just when I was relieved.

Q. You turned over your office to your successor in January, 1879?—A. In January or February.

Q. Who was your predecessor in office?—A. J. W. Edwards.

Q. And who was your successor?—A. H. H. Stafford.

Q. During the time you were register what clerks or employés had you in your office?—A. The first clerk I had in my office I employed to do some outside work at the request of the canal company in preparing its first list.

Q. Give me his name without saying anything about the work?—A. My impression is that his name was Chester; I may be mistaken; fifteen or sixteen years is a long while for a man to remember.

Q. What were the names of all the other employés in your office?—A. One of them was Mr. Mathews, and there was one, Mr. Tobin, in the office, but the most of the time I ran the office myself.

Q. Were Mr. Chester, Mr. Mathews, and Mr. Tobin all the employés that you had?—A. I believe they were all I had.

Q. When did Chester commence and when did he stop?—A. I think he came in some time in April, 1868. He was only with me probably six weeks.

Q. When did Mr. Mathews come into the office?—A. In 1877 or 1878, I am not positive which year.

Q. How long did he remain in the office?—A. He remained until I went out. In fact, he turned the office over to my successor. I had lost my health, and had to suspend from official business.

Q. Did Mathews leave the office at that time?—A. I cannot say, but my impression is that he did.

Q. When did Tobin commence his services in the office?—A. I cannot tell you exactly; probably along about 1870.

Q. And how long did he remain?—A. He was with me several years.

Q. How many years was he with you?—A. I cannot fix the number of years, but probably three or four.

Q. Tell the committee what books and papers constitute the records of the United States land office?—A. We have what is called plat books, and tract books, and entry books of various kinds, which might be called cash entry books, and a warrant entry book for each land act of Congress—1855, 1850, and 1847. Then there are diagrams of withdrawals, such as railroad withdrawals, and military road withdrawals, &c.; and there should be lists of swamp lands. The general record books are the plat books, the tract books, and the entry books.

Q. In addition to those the records of the local office at Marquette contained also all correspondence sent to it by the General Land Office, did it?—A. Oh, yes.

Q. And it contained copies of the letters written to the General Land Office?—A. Yes, sir; it should contain all copies of letters written by the register and receiver to the General Land Office.

Q. It also contains, does it not, a registry of final homestead entries?—A. Yes.

Q. And original entries?—A. Yes.

Q. And script entries?—A. Yes; and all sorts of entries that the Department allowed upon lands.

Q. The local land offices have a set of tract books, and a set of plat books, have they?—A. Yes, of all different classes of entries.

Q. Then, you have the general correspondence from the Land Office, and you have the copies of the correspondence sent from the local office to the General Land Office?—A. Yes.

Q. And you say that you have diagrams showing withdrawals of lands?—A. Yes; that is our only guide, or should be our only guide, of what is withdrawn where a withdrawal is made.

Q. You were first advised of withdrawals, were you, by the receipt of diagrams, or lists, or instructions from the General Land Office?—A. Yes.

Q. In ordinary practice when such a list or diagram as that is received, what do you do in respect to tract books; I mean what are the duties of a receiver in general, not speaking now of the Marquette office in particular?—A. I cannot answer you, for I never had any withdrawals under my administration; so I was never obliged to do anything about them. The withdrawals had been all made before I was register.

Q. What is the duty of a register on the receipt of a letter from the General Land Office inclosing a diagram of withdrawal, or a list of lands? What is his duty in reference to the tract books then?—A. I never had any experience of that kind. I do not know what my predecessor would do in a case of that kind.

Q. You were register of the land office for a good many years and you are conversant with the duties of a register. Now, please to answer the question which I have just asked.

The question was objected to and after some argument was admitted. It was then modified as follows:

Q. Do you know what the duties of a register of the land office were under such circumstances?—A. I can only answer from the records of the office.

Q. You only know from what you did?—A. I only know from what I did, of course. I cannot tell what the law required or what the Department required from the register and receiver on the sending of

these withdrawals to the office, for I never had any experience in that line.

Q. Then the only thing you know in regard to what a register should do under such circumstances is derived from what you did yourself, or from what you did not do, in that office?—A. Yes, and from what I saw in the records.

Q. Did you ever see anything in that land office in connection with such a circumstance as that?

The WITNESS. I would like to explain.

Mr. REDINGTON. You can answer my question.

The WITNESS. I cannot say that I did.

Mr. REDINGTON. My question is this, Did you ever, from the records of the land office as you found them, have any information as to what the duty of the register was under such circumstances?—A. I cannot say that I did. About two months after I took the office, and before I became familiar with it (I had not much land-office experience when I took the office), the office burned up and every thing in it except the plat books were destroyed. Naturally I could not have much experience of what my predecessors did, and of course the new records were replaced from the General Land Office.

Q. Now answer my question. You were in possession of the records of that office for two and a half months before the office was burned. Is that so?—A. About that time.

Q. In those two months and a half did you make any effort to become conversant with the records and condition of the office?—A. Not further than the official business which came before me.

Mr. MCCARTER. You mean the current business?

The WITNESS. Yes.

By Mr. REDINGTON:

Q. You held that office for two months and a half and you knew nothing about the records that were in it when you came there, except when you had occasion to consult them with reference to current business. Is that what you mean?—A. Yes; that is what I mean.

Q. And that continued for two months and a half?—A. About two months and a half, I should say.

Q. Tell me what the tract books in a local land office show.—A. Where there is a withdrawal for any purpose the tract book describes what the withdrawal is for, whether it is for railroad or something else.

Q. What else do the tract books contain?—A. State lands, swamp lands (as we call them).

Q. Anything else?—A. All descriptions of lands. Every section is posted in full in the tract books, and opposite each description (if it is designated for any particular purpose, such as railroad lands or State lands), the tract books state under what act the land was appropriated.

Q. Then the tract books of a local land office should contain a complete record of all lands disposed of by the United States in any way—should they not?—A. Yes.

Q. And the entries are made when the lands are disposed of at the local office?—A. Yes.

Q. Do they also show declaratory statements made under the pre-emption act?—A. That is generally noted in pencil.

Q. When the final entry is allowed under the pre-emption act, what is done?—A. It is posted up in ink.

Mr. PAYSON. You mean on the tract books.

The WITNESS. Yes; and is also marked on the plat books.

Q. How many years was he with you?—A. I cannot fix the number of years, but probably three or four.

Q. Tell the committee what books and papers constitute the records of the United States land office?—A. We have what is called plat books, and tract books, and entry books of various kinds, which might be called cash entry books, and a warrant entry book for each land act of Congress—1855, 1850, and 1847. Then there are diagrams of withdrawals, such as railroad withdrawals, and military road withdrawals, &c.; and there should be lists of swamp lands. The general record books are the plat books, the tract books, and the entry books.

Q. In addition to those the records of the local office at Marquette contained also all correspondence sent to it by the General Land Office, did it?—A. Oh, yes.

Q. And it contained copies of the letters written to the General Land Office?—A. Yes, sir; it should contain all copies of letters written by the register and receiver to the General Land Office.

Q. It also contains, does it not, a registry of final homestead entries?—A. Yes.

Q. And original entries?—A. Yes.

Q. And script entries?—A. Yes; and all sorts of entries that the Department allowed upon lands.

Q. The local land offices have a set of tract books, and a set of plat books, have they?—A. Yes, of all different classes of entries.

Q. Then, you have the general correspondence from the Land Office, and you have the copies of the correspondence sent from the local office to the General Land Office?—A. Yes.

Q. And you say that you have diagrams showing withdrawals of lands?—A. Yes; that is our only guide, or should be our only guide, of what is withdrawn where a withdrawal is made.

Q. You were first advised of withdrawals, were you, by the receipt of diagrams, or lists, or instructions from the General Land Office?—A. Yes.

Q. In ordinary practice when such a list or diagram as that is received, what do you do in respect to tract books; I mean what are the duties of a receiver in general, not speaking now of the Marquette office in particular?—A. I cannot answer you, for I never had any withdrawals under my administration; so I was never obliged to do anything about them. The withdrawals had been all made before I was register.

Q. What is the duty of a register on the receipt of a letter from the General Land Office inclosing a diagram of withdrawal, or a list of lands? What is his duty in reference to the tract books then?—A. I never had any experience of that kind. I do not know what my predecessor would do in a case of that kind.

Q. You were register of the land office for a good many years and you are conversant with the duties of a register. Now, please to answer the question which I have just asked.

The question was objected to and after some argument was admitted. It was then modified as follows:

Q. Do you know what the duties of a register of the land office were under such circumstances?—A. I can only answer from the records of the office.

Q. You only know from what you did?—A. I only know from what I did, of course. I cannot tell what the law required or what the Department required from the register and receiver on the sending of

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Q. When the final entry is allowed under the pre-emption act, what is done?—A. It is posted up in ink.

Mr. PAYSON. You mean on the tract books.

The WITNESS. Yes; and is also marked on the plat books.

By Mr. REDINGTON:

Q. The tract books also show withdrawals, reservations, and everything of that kind taking land out of the public domain, do they not?—A. Yes, sir; I would like to modify that a little. When the withdrawal was made for the Portage Lake and Lake Michigan Canal Company, the withdrawal was of all odd sections north of a certain township line and west of a certain range, for the purpose of allowing the canal company to select its lands. Of course, that would not be noted in the tract book. I do not think it ever was noted.

Q. Why not?—A. The withdrawal of the lands was made, and the lands could not be entered until the canal company had made its selections and until the Land Commissioner saw fit to put the lands back on the market.

Q. Is not that the very reason why these lands should be marked on the tract book?—A. That is the way I know it was done, although the withdrawal of these lands was made before I took the office.

Q. I ask you whether that is not the very reason why they should have been entered on the tract book?—A. I do not think it was; I do not know whether it should have been entered or not; I cannot answer that question; I do not know whether the Department claims that it should have been entered on the tract book.

Q. You have just said that the tract book should contain not only all the dispositions made of public lands, but also all orders and reservations taking land out of the public domain. Now, why should not that withdrawal for the benefit of the canal company have been entered on the tract book? What reason can you give why it should not have been so entered?—A. I do not know any reason except that the withdrawal embraced a million acres or more, while the canal company was not entitled to select more than 100,000 or 200,000 acres, and that when the lists are perfected they are all posted in the tract book.

Q. Do you consider that a reason why the withdrawal of lands should not be posted in the tract book?—A. I did not conceive that that was necessary.

Q. Do you consider that a good reason?—A. Yes; I should consider it a good reason. It would not be necessary to post up lands in a tract book as withdrawn, when the time was coming that the same lands, or a part of them, were going to be put back again on the market.

Q. You think it was not necessary when there was a large withdrawal made of public lands to enter anything up in the tract book to show that these lands were taken out of the public domain, provided you thought the lands were going to be shortly put back again?—A. It would not be necessary on the ground that not any of these lands could be entered until they were put back again.

Q. Suppose a man were to go to a land office in search of public lands to enter, is not the tract book in the land office the record which he must consult in order to determine what is, and what is not, public land?—A. I can answer that question by stating just how I carried it out.

Mr. PAYSON. Is that the only way you can answer it?

The WITNESS. It is the only way I can answer it intelligently.

By Mr. REDINGTON:

Q. Do you mean to say that you held that office for eleven years and do not know what record book in the office was the proper one for a citizen to consult when he wanted to enter public lands?—A. No.

Q. Then answer my question.—A. The plat books first in every instance.

Q. What office did the tract book have?—A. To register.

Q. What was its office and what its purpose?—A. When we had any doubt as to the status of a piece of land in the plat books, we referred to the tract books.

Q. Then you first went to the plats?—A. Always.

Q. And if you had any doubt from the plats you went to the tract books?—A. Always. That was the custom in the office while I was there, and I think it is the custom to-day.

Q. You mean to say that the plat books, in the ordinary practice of the office, are first used as the primary record to show whether lands are subject to disposal or not?—A. I suppose that the plat book was the first that we always used in the Marquette land office.

Q. I am not asking you what you suppose; I am asking you what you know about the practice of the office?—A. The most of my knowledge on the subject is from my own practice, and that was the first book that I always used.

Q. Then you are incorrect, are you, in your statement that the tract book is the book which shows all disposals of public lands and all reservations?—A. I say that the plat book shows it.

Q. Then you are mistaken, are you, in the statement that the tract book shows all the disposal of public lands?—A. Not at all.

Q. You are right about that, are you?—A. Yes.

Q. And yet in the administration of your office you did not so treat it?—A. The plats show the entry of lands just as the tract books do. When an entry is perfected it is always marked on the plats.

Q. Do you mean to tell me that the plat books show the entries of lands just as the tract books do?—A. The lands have to be entered by the number of the certificate issued.

Q. Entered where?—A. On the plat books.

Q. What is entered on the tract books?—A. The description of the land and the name of the person entering it.

Q. Did you put any names in the plat books?—A. No, sir; although I have been in land offices where the registers have put in the plat books the names of the parties making the entries.

Q. Then you have been at some other land office besides your own at Marquette?—A. Yes.

Q. Then why did you not answer my question about the practice of land offices?—A. I do not know whether that is true or not, but I have seen it in other land offices. I have always thought, however, that it was a very singular practice.

Q. When a man came to your land office and applied to take land, the first you did was to take up the plat book?—A. Yes.

Q. And if you found marks on that plat book, you determined from those marks whether the land was subject to entry or not?—A. I determined it from the tract books.

Q. When you found a mark upon the plat books, you went then to the tract books?—A. Yes.

Q. Then when you went to the tract books and examined them, you were able to decide whether the lands were public or not public?—A. Not especially that; but my habit was, if a man came to look for a piece of land, and if I referred to the plat book and saw that it was already taken, I so stated to him. He would probably want information as to who it was taken by, and when, &c., and I would refer to the tract books, and they would give the description showing the number of the

certificate and the name of the party, and (if the land was patented) when it was patented.

Q. Did you ever refuse to allow a man to enter land in your office by a simple inspection of the plat book?—A. I think I have a great many.

Q. Can you tell any instance of the kind?—A. No; I cannot give any instances.

Q. Then, as a matter of fact, you did not rely upon the tract books?—A. The tract books were supposed to be the best evidence. When we looked upon the plats and saw the number of the certificate marked on a piece of land, showing that it was entered, if the man was persistent enough we examined the tract book and were able to tell him more particulars.

Q. The plat books were the documents to which you referred, and which were your guiding star?—A. We always started upon the plat books in our office.

Q. Tell us which of the two books you relied upon and depended upon in determining whether land was subject to disposal or not?—A. When I ran the office I felt that my plat books were more correct than the tract books.

Q. Which of those books did you consider and did you treat as authority to determine whether land was subject to entry or not?—A. I think that I relied upon one just as much as I did upon the other. Either one would tell whether land was taken.

(The question being repeated, the witness answered as follows: "I regarded the one as being just as good authority as the other.")

Q. And yet you say that you first went to the plat books?—A. Always.

Q. And from those plat books you registered the applications without ever looking at the tract books?—A. Not always. When anything came up about which there was a question we consulted both books in order to determine the real status of the tract.

By Mr. PAYSON:

Q. The plat book was a book of maps, was it?—A. Yes.

Q. How large were the maps?—A. There was a township on each page of the book, and there were thirty-six sections to the plat. When a man came into the office to make an entry the number of the certificate was written on the plat books.

Q. What did you do in reference to the tract books?—A. Then we posted it up in the tract books, and we put it in the entry books also.

By Mr. REDINGTON:

Q. How soon after you made the note on the plat book did you put it on the tract book?—A. Before the party went to the receiver for the receiver's receipt.

Q. When did he go for his receipt?—A. Just as soon as the register completed the entry.

Q. What do you mean by that?—A. I mean when the entry had gone upon all the records in the office.

Q. Do you mean to say that immediately upon entering the entry on the plat book you entered it on the other books of the office and immediately sent it to the receiver, and that before it went to the receiver you entered it upon the tract book?—A. Yes; that was my habit and the way I think it should be done.

Q. In regard to all the lands which you disposed of, how much of them did you dispose of through the plats without looking at the tract books at all?—A. I cannot answer that question.

Q. How frequently did you do it?—A. I should think that probably the heft of the entries were disposed of without looking at the tract books. We had the evidence from the plats that satisfied us beyond all question that the lands were vacant lands.

Q. Did you ever erase anything from a plat and put another entry in its place?—A. No, sir.

Q. Never?—A. I say never. Of course, inadvertently, sometimes in making an entry we might get onto the wrong piece of land; that is, a man is always liable to make a mistake. No man is so perfect but he will get a little muddled on lands sometimes. I do not recollect of any such instance, but there may have been such instances.

Q. You are positive that it was not the practice in your office to do that?—A. No, sir; it was not the practice.

Q. Did you ever make any notations on the plats which you did not make on the tract books?—A. No; not that I am aware of; my usual practice was to carry an entry through all the records.

Q. You say that a majority, or the heft of the lands that were entered, were entered according to the plats and not according to the tract books?—A. Yes; I say that that was the practice.

Q. To get back to my line of examination from which I was diverted by the explanation which you made at the suggestion of the counsel on the other side; tell me what a plat book in a local land office contains?—A. It contains all the townships and the districts—that is, the different books. My office had ten or twelve volumes of plats.

Q. Surveys of townships?—A. Yes.

Q. One on each page?—A. Yes; one on each page.

Q. And all bound in a volume?—A. Yes.

Q. Where did they come from?—A. From Washington, I suppose. I found them in the office when I took it.

Q. Do you not know where the plats of the public lands come from?—A. Yes.

Q. Then why do you not answer my question?—A. They come from the General Land Office.

Q. I asked you where the plats come from, and you said, "From the General Land Office."—A. I suppose so, of course.

Q. Do you not know that they do?—A. I do not know. A man cannot know a thing very positively unless he sees it, or has received it.

Q. I want to know from you, after an experience of eleven years as register of a United States local land office, if you do not know where the official plats come from that come into that office?—A. I believe they come from the General Land Office.

Q. Do you not know that they come from the General Land Office?—A. If a man can know a thing without receiving it or seeing it, I would say yes.

Q. Did you ever receive any books or plats?—A. Yes.

Q. From where did you get them?—A. From the General Land Office.

Q. Do you not know from that, and from other facts, that the plat of a township, when surveyed, is transmitted to the local land office from the General Land Office, after it has been approved by the Commissioner?—A. I do not know it of my own knowledge, except so far as I have received plats from the General Land Office. But, of course, I suppose that to be the fact.

Q. Did you ever see, in all your experience in that land office, any plat on file which did not come from the General Land Office?—A. Not that I am aware of.

Q. These plats or surveys are made under the authority of the United States, are they?—A. Yes.

Q. And are approved by the Commissioner of the Land Office?—A. I cannot say whether there is a certificate on a plat of the approval of the Commissioner. If not, there should be. I am not positive about that.

Q. After an experience of eleven years, you did not learn whether it is necessary or not for the Commissioner of the Land Office to approve a plat before it becomes an official survey; is that so?—A. Yes, sir; that is so.

Q. You had that bound volume of plats in your office when you went in in 1868?—A. Yes.

Q. Are those plats there now?—A. I suppose they are.

Q. Were they there when you left the office?—A. They were turned over to my successor.

Q. Then you saved those plats from the fire?—A. Yes; except a few loose ones that were burned up.

Q. You saved the plats and restored them to the land office after the office was reopened, and they remained there until the close of your term of office?—A. Yes.

Q. Did you save any of the other records of the office?—A. Not any others, and I had hard work to save them.

Q. When that land office was burned, and was afterwards reopened, with what records was it supplied?—A. With the records that I spoke of in starting out—tract books and new entry books. The tract books were posted up in the General Land Office here. In other words, the official records of the office, so far as notations or such things were concerned, were all supplied and posted up here from the work of the local office, as the reports were made from month to month, ever since the office was reopened.

Mr. PAYSON. You say that the posting of the books for the local office was done here in Washington?

The WITNESS. Yes, sir.

By Mr. REDINGTON:

Q. Under the regulations a local land office is obliged to make monthly returns of its work to the General Land Office, is it?—A. Yes.

Q. And those returns are bound in a set of books in the General Land Office corresponding to those kept in the local offices?—A. I suppose that to be the fact.

Q. That is another thing you did not learn during your eleven years?—A. Yes; that is another thing I did not learn.

Q. Then the records kept in the General Land Office should be practically duplicates of those kept in the local office?—A. Yes, as I understand.

Q. After the fire, you came to Washington, and superintended the preparation of these records?—A. No, sir; I did not superintend it. I came here, but they did not allow me to have anything to do with superintending the records. They put them all in charge of their own men. I was here only a few days.

Q. But you came to Washington in connection with that matter?—A. Yes, sir.

Q. And copies were made of the records in the General Land Office?—A. Yes, sir.

Q. Which were absolutely duplicates of the records that were burned?—A. Yes, sir.

Q. And these copies were sent on to your office to supply the place of the records that were lost?—A. Yes; and a man was sent on from the General Land Office to superintend the opening of them.

Q. What did the old tract books in your office show in reference to any railroad withdrawals of land?—A. I cannot answer that question, for I do not know.

Q. Did you ever look at them to find out?—A. I never consulted the old tract books during the two months and a half that I was there before the office was burned any further than was necessary in posting up my work as I was doing it.

Q. What did the new books show in reference to any withdrawals?—A. All withrawals were noted in them; but these lands that I speak of as having been withdrawn for selections to be made were not noted.

Q. That is, withdrawals for the canal company?—A. Yes; the withdrawals for the Lac La Belle Canal Company.

Q. All withdrawals were noted in the tract books, copies of which were furnished to you?—A. Yes.

Mr. PAYSON. Were there any other withdrawals of land from which selections were to be made afterwards, except for the Lac La Belle Canal and Portage Lake Canal?

The WITNESS. Yes; there was a withdrawal for the Michigan and Ontario Railroad grant, and for some Indian reservations, and for what was called the Brulé Railroad grant.

By Mr. REDINGTON:

Q. Did not the copies which you received from the General Land Office show the lands that were withdrawn in 1856 for the Ontonagon and State Line Railroad Company?—A. Yes.

Q. Then you add that to the withdrawals that you have mentioned in reply to Mr. Payson's question, do you?—A. I did not add that to the withdrawals mentioned from the fact that they furnished me with no diagram.

Mr. PAYSON. If I understand you correctly, the general withdrawals north of a base line, and west of a range line, out of which selections might thereafter be made for the benefit of the canal company, were not carried on to the tract book?

The WITNESS. No, sir.

Mr. PAYSON. And in like manner a reservation for the benefit of the Lac La Belle Canal was not carried on to the tract book?

The WITNESS. No, sir.

Mr. PAYSON. In addition to those two that were not carried on to the tract book, were there any other reservations or withdrawals that were not carried on to the tract book?

The WITNESS. Not that I remember.

Mr. DAVIS. In order to clear up any misapprehension, I will say that the withdrawals for the canal company were withdrawals north of township 42, for instance, and west of range 19; but that the withdrawals for the railroad companies were not of that class of withdrawals.

Mr. PAYSON. I understand that; but the witness said that there was no withdrawal which did not appear on the tract book, and I understood him to say afterwards that a similar withdrawal for the Lac La Belle Company was not noted on the tract book. My question was whether there were any other withdrawals of any other character that were not entered on the tract book?

Mr. REDINGTON. If you allow me to clear up any misapprehension, I should say that the withdrawal for the canal company was exactly the

same kind of withdrawal as were made for railroad companies. [To the witness.] Tell me if withdrawals were entered on the copies that you received from the General Land Office?

The WITNESS. Railroad withdrawals.

Q. What railroads?—A. The Marquette, Houghton and Ontonagon Railroad, and what we call the Peninsula Railroad (now the Chicago and Northwest), and those grants to which you refer, the Marquette and State Line, and the Ontonagon and State Line.

Q. They were all marked upon the tract books that you got from the General Land Office, were they?—A. Yes, sir. All railroad withdrawals are accompanied by diagrams showing the limits to which the railroad is entitled—the 6-mile limit, then the 15-mile limit, and then the 20-mile limit, and that we use in making locations, as our guide.

Q. It is a fact, is it, that the tract books furnished by the land office contained entries of the withdrawal made for the Ontonagon and State Line Railroad Company?—A. I think so; I think that that is a fact.

Q. Was there anything in the tract books, or on the files of your office besides the tract books, showing the railroad withdrawals made under the act of 1856—I mean the original tract books?—A. I do not get your idea clearly. I do not know what the original tract books contained.

Q. Was there on file in your office a diagram from the Commissioner withdrawing these lands, on May 30, 1856?—A. I never saw it.

Q. You do not know whether it was there or not?—A. I cannot say whether it was or not.

Q. Was there an order of June 13, 1856?—A. I never saw it. I do not know anything about it.

Q. You do not know whether it was there or not?—A. No, sir. I have heard said that there was such a thing in the office; but I never saw it.

Q. Was there any map in the office showing the definite location of the Chicago, Saint Paul and Fond du Lac Railroad?—A. I can only say that before the fire I think there was. I have a very indistinct recollection of something of the kind. I had not any occasion to consult it before the burning of the office; but I should say, from what recollection I have, that there was such a map there.

Q. Your recollection is that there was a map of the definite location of that railroad there at the time the records of the office were burned?—A. I should say there was, although I am not positive.

Q. Was there also on the files of your office, at the time the office was burned, a notice of restoration of lands outside the 6 mile limits of that grant, dated April 2[illegible], 1860?—A. That I cannot tell.

Q. You do not know whether there was any such notice of restoration?—A. No; I did not see it.

Q. Do you know of its existence without seeing it?—A. No; this is the first time I ever heard of it.

Q. Was there a subsequent notice, with a diagram, of April 27, 1860, in reference to that road?—A. That I know nothing about; I never saw it, and I never heard it spoken of.

Q. Was there any record in your office at the time the office was burned showing the listing of lands for the State of Michigan for the benefit of that railroad?—A. That I do not know.

Q. You do not mean to say that none of the papers I referred to were in the office?—A. No; I simply say that I do not know whether they were in the office.

Q. You do not know whether they were there or not?—A. No; if they were ever made, I presume they were in the office.

Q. You think that the definite location of the line of that railroad was in the office?—A. Yes; I have a recollection that there was a map there; but it is a very indistinct recollection.

Q. Was there anything in the records of that office showing a withdrawal of lands for the Portage Lake Canal Company, dated May 26, 1865?—A. I never saw it.

Q. Was there anything in the office showing it?—A. I suppose there was.

Q. Why do you suppose so?—A. Because I know that there was that withdrawal.

Q. How do you know it?—A. I think my predecessor gave me the borders of the Lac La Belle and Portage Lake withdrawals when I came into the office.

Q. Then you know more about the canal company's withdrawal than you do about the railroad withdrawals?—A. I wanted to know where lands were subject to entry, and where they were not subject to entry.

Q. Was there not the same necessity to know about railroad withdrawals as there was about canal withdrawals?—A. Yes; I should have thought so.

Q. Then the fact is that you did, from some source, know something about the canal withdrawals?—A. I suppose that is so.

Q. Did you not know anything about a subsequent withdrawal for canal purposes, on June 14, 1866—I mean subsequent to the one just referred to?—A. I did not suppose there was more than one withdrawal until along in 1877, when there were a few townships withdrawn.

Q. Do you know anything about the withdrawal for the canal company dated June 14, 1866.

The WITNESS. Was not that the original withdrawal?

Mr. REDINGTON. The withdrawal that I first asked about was that of May 26, 1865; and I am now asking you whether there was another withdrawal?

The WITNESS. I was not aware of but one withdrawal, and that withdrew about all the lands that were outside of the withdrawal for the Lac la Belle Company. I do not know where the second withdrawal could have been made.

Q. On page 4 of the history of this canal company—a document prepared by the company at some stage of its various troubles—I find a copy of a letter from the Commissioner of the General Land Office to the register and receiver at Marquette, dated July 25, 1865. Do you know anything about the receipt of such a letter as that?—A. All that I know about it is from what I have heard about it.

Q. What did you hear about it?—A. I heard, in a general way, that there was such a letter in the office making a withdrawal of lands west of a certain range, and north of a certain township.

Q. You say you simply heard that there was such a letter?—A. Yes; that is all.

Q. At the time the office at Marquette was burned, did you know whether there was on file in the office a letter from the Commissioner of the General Land Office, dated December 17, 1866, calling attention of the office to the fact that the receipt of this withdrawal had not been acknowledged by it?—A. No; I did not.

Q. Referring to the letter of July 25, 1865, I want to read a portion

of it to you to see if your recollection will be refreshed by it. The Commissioner says—

You will not forget that all odd-numbered sections in your district north of town 40 N., and west of range 21, were withdrawn from market by the order of May 26, 1865, and hence not subject to another location of claim until regularly restored to market.

The WITNESS. I never knew anything about that letter.

Q. Do you know whether that letter was on the files of the office when you took charge of the office?—A. I suppose it was; but I did not see it.

Q. On the original plats in your office were these railroad withdrawals marked?—A. I think there was a letter in pencil put in to indicate the withdrawals. This was done in most cases if not in all.

Q. What do you mean by "done in most cases"?—A. After receiving the diagram, in order to facilitate the business of the office, we would go over the plats, and mark the different ones that were subject to selection under withdrawal within the range of that diagram. We would mark them with pencil.

Mr. PAYSON. Thus practically transferring the diagram to the plat books?

The WITNESS. Yes; that is the idea.

By Mr. REDINGTON:

Q. As a matter of fact, then, the railroad limits were marked upon the plat books?—A. I think that that is a fact.

Q. Were they marked upon the plat books up to the time that you left the office?—A. I think they were.

Q. You say that there was a withdrawal of some kind made for the canal company in 1871?—A. No; I think it was later than that.

Q. In 1877?—A. I think it was either in 1876 or 1877. It was a withdrawal of ten or twelve townships.

Q. Where were they?—A. If I were allowed to go on and make a statement I could make it more condensed.

Q. Where were these townships that were withdrawn?—A. They were north of township 41. I cannot tell how many townships there were. It was after Mr. Frost was appointed State agent. These lands were held out of the market for some time to enable him to complete his selections.

Q. Who took them out of the market?—A. The General Land Department.

Q. By orders to your office?—A. Yes, sir.

Q. Were you instructed to withdraw them from the market?—A. Yes; and I was afterwards instructed to return them. We held those townships out of the market.

Q. Did you mark them on the plat books?—A. No, sir; on the tract books.

Q. Then to that extent you had some experience as to what reservations were on the tract books?—A. That I want to explain.

Q. You had that experience?—A. That is the only experience.

Q. You nevertheless did not put them either on the plat books or on the tract books?—A. No, sir.

Q. When you took possession of that office had any lands been certified or listed to the Portage Lake Canal Company?—A. I think not.

Q. Did you find any applications or lists of land in the office from the canal company?—A. I did not see any.

Q. Did you find any lists or applications for locations of land by the

canal company on file in your office when you took possession of it?—A. I did not see any, although there may have been some there.

Q. Do you know whether there were any there or not?—A. My impression is that there were; but I have not seen them.

Q. Your impression is that there were?—A. Yes.

Q. But you are not positive about that?—A. No, sir; I am not positive. My impression is derived from the fact that I knew that the State agent had lists and brought them back there into the office, and I supposed they were there. I had not seen them; my attention was not called to them, and I did not see them.

Q. What do I understand by all this—that the lists were there, or that they were not there?—A. I supposed they were there, but I had not seen them.

Q. Did you ever see them?—A. I never saw any but what the State agent had. I saw those that the State agent had.

Q. Was there not a list of the same kind from the canal company pending in the office at the time you took possession of it?—A. I can only answer that as I have already answered it—that I supposed there was, but that I had not seen it.

Q. Do you know anything about a suit that was commenced in the circuit court of the United States for the northern division of the western district of Michigan, entitled "The Lake Superior Ship-Canal and Iron Company *vs.* The Ontonagon and Brulé River Railroad Company, &c.," in which you were sworn as a witness?—A. I do not know that that suit was commenced. I heard about its going to be commenced.

Q. Were you not called and sworn as a witness, and was not your testimony taken in that suit before an examiner in chancery?—A. My testimony was taken at Marquette.

Q. By an examiner in chancery in that suit?—A. Yes; not before any court.

Q. In that suit before that examiner in chancery, did you not testify as follows:

The canal company had a list in the office. It was in when I took charge of the office—called a railroad list. That is, I called it a railroad list. It was a list of about 50,000 acres that was selected in the branch line running to Ontonagon. The Department held that they were not entitled to those lands for the reason that the lands had never been properly relinquished back to the United States. They claim that the railroad company must relinquish to the State, and he State to the United States. Mr. Avery wanted I should go to work and prepare a list, or rather, deeds of relinquishment.

Did you not testify to that effect in that suit?—A. Yes.

Q. Having had your attention called to that, do you still say that you do not know whether there was such a list in the office when you took charge of it?—A. I say that the wording there, that it was in when I took charge of the office, is erroneous. I think that the list was filed along after I took charge of the office.

Q. Then this statement here is not true?—A. It is not true so far as to the list being in the office when I took charge.

Q. This testimony was taken before an examiner regularly appointed by the court to take testimony, was it not?—A. I might inadvertently have made that remark, but I did not intend to do so. I meant to say that there was a list in the office.

Q. Was this testimony read to you before you signed it?—A. I presume it was.

Q. You read it over and signed it?—A. It was read to me.

Q. It was properly certified to by the officer who took it?—A. Yes.

Q. And was returned to the court?—A. Yes.

Q. And you say that that statement in the testimony is a mistake?—A. Yes; there was no such list in my office when I took it; there was such a list afterwards.

Q. Then the statement in this testimony was not correctly reported?—A. So far as that one word is concerned, I should say it was not. The other part of it is all correct.

Q. I rea again from this testimony—

The canal company had a list in the office. It was in when I took charge of the office—called a railroad list.

Can you explain to me how you could have used such language as that and been mistaken?—A. It was a list filed under the second grant.

Q. Had there been any previous list filed at all, before that list was filed?—A. I cannot say as to that; but, if I was going to say anything about it, I should say there had been.

Q. You do not know?—A. I cannot say, positively.

Q. You say in this testimony—

The canal company had a list in the office. It was in when I took charge of the office.

Can you tell me how you could have made such a statement as that to the examiner, or how he could have taken down such a statement in such words, unless you had testified specifically to the fact at the time?—A. I cannot explain it.

Q. You still say that you did not testify to the facts as here recited?—A. I did not intend to do so, because I do not think there was any such list in the office when I took charge of the office. I have no recollection of there being such a list in it. I know that there was such a list in it afterwards.

Q. When did you first see such a list, according to your present recollection?—A. After the office was burned, and after it was reopened.

Q. In whose possession did you then see it?—A. I think it was in the possession of the State agent.

Q. Who was he?—A. Mr. P. J. Avery.

Q. What occurred in reference to this list of lands, and what did you do in relation to it?—A. I did not do anything myself; but there was an objection on the part of the Department here to certify the list, because the land fell within the purview of certain railroad limits—the Marquette and State Line limits. And until those lands were relinquished by the railroad and given back to the State, and were relinquished by the State and given back to the United States again, the General Land Office would not certify the list. I always spoke of it as a railroad list.

Q. Still you have not told us what you did with it?—A. I did not do anything with it until the railroad company and the State relinquished the lands. Then the State agent came to me and wanted me to examine the list and give it to him, and I did so.

Q. You did nothing at all in reference to this list, or in or about that matter, until the lands had been relinquished by the State to the United States?—A. No, sir.

Q. You did nothing on the subject?—A. No, sir.

Q. I again call your attention to your sworn testimony in that suit, the last clause of which I have already read to you:

Mr. Avery wanted I should go to work and prepare a list or, rather, deeds of relinquishment.

Q. Who was Avery?—A. He was then agent of the Portage Lake and Lake Superior Ship-Canal and Railway Company.

Q. And also the same one who was appointed by the governor to make selections? —A. Yes, sir; I sent to the Department and got a diagram showing the lands that would come within these limits.

Did you do that?—A. Yes.

Q. Then you did something in reference to it before the lands were released?—A. Yes; I did that.

Q. I read to you again:

Q. That diagram was sent to you for that purpose, then?—A. Yes, sir; and I prepared the deeds; and after the deeds were executed, as I was informed by the Chicago and Northwestern Railway Company, to the governor (H. P. Baldwin was then governor of the State of Michigan), Avery wrote me to forward the list (this list that I call the railroad list), which I did, I think in 1871, or about 1871, either '70 or '71, and the list was approved right off; and that is all I know about it.

Now is it a fact that after you had sent to the Department and procured this diagram, you prepared the deeds of relinquishment?—A. I prepared the deeds for both the railroad company and the State, of what was called the clear lands.

Q. Then you did do something in reference to this matter before the relinquishment of the lands by the State? You sent to the Department and got a diagram showing the limits, and you then drew deeds of release from the railroad company to the State, and from the State to the United States, of the lands shown on that diagram. Did you not do that?—A. They sent me a diagram showing the lands, both the common and the clear lands. But the lands within the common limits, and the Marquette lands, as I understood it, had previously been relinquished, and it was only the clear lands of the Ontonagon branch line which had been relinquished.

Q. That is all I am asking you about; and I ask you whether in reference to those lands you prepared these deeds of release before the deeds were executed?—A. Yes.

Q. Then it is true that at the request of Mr. Avery you wrote to the Department at Washington and procured a diagram showing these railroad limits, and at his request you prepared the deeds of release from the railroad company to the State, and from the State to the United States. That is true, is it not?—A. Yes; that is true.

Q. And then, at the request of Mr. Avery you forwarded this list to the Department?—A. I suppose I forwarded it to Avery, the State agent.

Q. Are you certain about that?—A. No; I am not certain about it, but I suppose I did. It was our usual custom to deliver the lists, after we had examined them, to the State agent.

Q. You say in your testimony, "Avery wrote me to forward the list, which I did." What did you mean by that? Did you mean that you forwarded it to Avery, or to the Department?—A. I cannot say as to that. It was either one or the other.

Q. Was it the custom in the office during your administration to approve lists and return them to the party who presented them?—A. I think we did that more than sending them to the Department.

Q. Then you considered your duty discharged when somebody came and presented a list, and you approved it and sent it to him?—A. To the State agent.

Q. Did you ever do that in reference to any other entry of land, except the canal company's entries?—A. Yes.

Q. To what others?—A. Military road lists.

Q. What military road?—A. On Lake Superior.

Q. Who was the agent in that case?—A. I think they had two State agents; first Mr. Anthony.

Q. Except this military wagon road, do you recollect any other case where you allowed selections and turned over the list to the party presenting it?—A. Yes; in the case of the Marquette, Houghton and Ontonagon selections, and also in the case of the Peninsula Railroad selections. We turned the list over to the agent after we had examined them, and after they had paid the fees required by law.

Q. You turned the list right over to the State agent?—A. Yes; I would like to have an opportunity to explain how these lists are prepared.

Q. You can have that opportunity when I get through asking my questions. Who owns that wagon road now?—A. I cannot say; I heard that the Ayerses owned it.

Q. Were the Ayerses the same parties who owned the canal company?—A. I mean the "Cherry Pectoral" Ayers.

Q. You did this same thing with reference to that wagon road, the canal list, and the Marquette, Houghton and Ontonagon Railroad?—A. Yes; and with reference to the Peninsula Railroad.

Q. When you went into that office and Mr. Avery came around afterwards with this list of the canal company you did not know that that list was in conflict with any railroad grant?—A. I think that the list had been made and sent to Washington for approval, and the Department rejected it.

Q. Is that the way you knew that it was within the railroad grant?—A. That is the way I knew that the Department would not certify it. I did not know how much of the lands were in, and how much were not in the railroad grant.

Q. When Mr. Avery came with this list did you know what were the limits of the Ontonagon and State Line railroad grant?—A. I think not.

Q. If that be so, and you did not know where the limits of that grant were, how came you to write to the Department to find out whether there was a conflict between the railroad limits and that canal list?—A. I think the list was made before there was any writing to the Department about it. I think that the list you are speaking about was a subsequent list.

Q. Then it was something about the list itself which attracted your attention to the fact that some of the lands were within the railroad limits?—A. I think that the State agent was the first man who ran against the limits with the list.

Q. And up to that time you did not know anything about the railroad limits?—A. I knew that there was a railroad limit up there, but I did not know how it was regarded by the Department.

Q. Did you know where it was?—A. I did not know just its bounds.

Q. Practically, you knew approximately where it was?—A. Not near enough to keep outside the rights of the railroad entirely if any one applied for lands.

Q. You knew that there was a railroad grant from Ontonagon to the State line?—A. Yes.

Q. And you knew that there had been a withdrawal of those lands in 1856?—A. Yes.

Q. And you knew that there had been a definite location of the line in 1857?—A. I did not know how definite the location was.

Q. You have already testified that there was a definite location of it?—A. Yes; so far as maps are concerned.

Q. Then you knew that there was a definite location of that line, did you?—A. Yes; so far as maps were concerned.

Q. And you knew that the lands had been listed to the State, did you not?—A. I did not know it; I only heard of it. I did not know there was such a list in the office.

Q. When did you first learn that any certifications of land had been made to the State of Michigan for the benefit of that railroad company?—A. I think I learned of that after the new railroad company—the Brulé River Company—came up.

Mr. PAYSON. Can you give the date?

The WITNESS. About 1880.

By Mr. REDINGTON:

Q. If you did not know anything about such a certification until 1880, how did you come to draw deeds of release relinquishing that very certification, and reciting it in the deed?—A. I knew that the draft was made in 1856.

Q. When you drew those deeds you knew that you were releasing a certification of lands?—A. I knew that it was releasing lands that came within the purview of this diagram.

Mr. PAYSON. About when was that diagram sent to you?

The WITNESS. I should say in 1870 or 1871.

Mr. DAVIS. A diagram of what?

The WITNESS. Of the Brulé River withdrawal, or the Ontonagon and State Line withdrawal; I wrote for the diagram.

By Mr. REDINGTON:

Q. Let me see if I understand your answer. You say that you knew nothing about the limits of this railroad grant from Ontonagon to the State line until about the time of the organization of the Ontonagon and Brulé River Company, which was in 1880?—A. Not the limits—the deeds descriptive, if I understand you.

Q. What is the difference between the limits and the deeds descriptive?—A. I never knew there was a list made of it.

Q. Did you know where the grant from Ontonagon to the State line was (on the face of the earth) before 1880?—A. I knew through what sections of the country it ran, but I did not know the exact limits.

Q. Until when; until 1880, when the new company was organized?—A. No.

Mr. REDINGTON. That is what you said.

The WITNESS. I did not mean to say that.

Q. What did you mean to say?—A. I meant until I sent for that diagram from which the deeds of relinquishment were drawn.

Q. That was ten years prior to 1880?—A. I should say it was in 1870 or 1871.

Q. Nine or ten years prior to 1880?—A. Yes.

Q. Then you did have a list some nine or ten years before, and knew the exact limits of this grant nine or ten years before the organization of the present company?—A. I had that diagram.

Mr. PAYSON. The witness stated in reply to my question that the diagram came in 1870 or 1871.

The WITNESS (to Mr. Redington). I supposed you had reference to a list, descriptive, which had been formerly made by the same railroad company.

Mr. REDINGTON. That is what I am talking about.

Q. In the deeds as executed, which you drew for Mr. Avery, there are

recited the provisions of the act of 1856, and also the provisions of the joint resolution of 1862; and in the second recital mentioned are the following words:

Making it the duty of the Commissioner of the General Land Office to reoffer for public sale in the usual manner the lands aforesaid, when duly filed in his office as herein directed.

Did you examine the joint resolution of 1862 when you drew this deed? —A. I cannot say whether I did or not.

Q. Did you examine the act of 1856?—A. I do not know that I did.

Q. Did you examine any of the legislation?—A. I do not know whether I did or not.

Q. How did you prepare this release?—A. The Department sent the proper blank and forms, as I recollect it.

Q. Then the Department prepared the release, did it not?—A. The Department prepared the forms.

Q. What do you mean by the forms?—A. The blank deed is not a deed really, is it? I do not understand it so.

Q. What do you mean by "forms sent by the Department"?—A. The forms of the deeds, or the blanks from which the deeds were drawn.

Q. Then, when you testified in this other suit that you prepared these deeds, you mean that the Department sent you some deeds?—A. The Department simply sent the forms on which the deeds were drawn.

Q. Then, when you testified in the other suit that you drew the deeds, you mean that the Department sent them?—A. I took that diagram and the plat books in the office, and put the descriptions in the deed. That was all I did about it.

Q. Then as early as 1870 you were officially informed by the Department (and you incorporated it in a deed which you say you drew) that it was necessary, before these lands could be entered by anybody, that they should be reoffered at public sale. That is so?—A. I do not know that the Department informed me anything about it; but that would be the inference.

Q. This [indicating] is the form the Department sent you?—A. Yes.

Q. And this form contains a recital of the joint resolution of 1862, does it not?—A. I suppose so.

Q. Then you had, in 1870, direct communication from the General Land Office, which you put into the form of a deed, at the request of Mr. Avery, for the benefit of this canal company, showing that the joint resolution of 1862 (No. 214) provides that those lands shall not be subject to entry until again reoffered. Is not that so?—A. That would be the presumption.

Q. Can you identify the 50,000-acre list which you certified for the benefit of the canal company?—A. I cannot here. There was a list in the local office there which I can identify, if it is still there.

Q. Can you identify it from any of those printed lists?—A. I do not know whether I can or not.

Q. Where were the lands situated?—A. The list contained (whether it was certified to the full amount or not I cannot recollect) about 50,000 acres.

Q. Where were the lands situated in reference to the limits of the railroad grant?—A. They were situated, I think, mostly within the territory of this State Line grant.

Q. How many acres were within the 6-mile limits of the grant?—A. I do not know—only what I saw and heard about it since this thing came up. The quantity was about 15,000 acres.

Q. But your recollection is that the majority of the lands were within the limits of the railroad grant?—A. I cannot tell you where they were situated.

Q. Were the lands contained in the 50,000-acre list within the railroad grant?—A. I suppose not, from the fact that they were not claimed to be.

Q. If they were not within the railroad grant, why was it necessary to secure this release, which you drew, of the railroad lands previously certified to the State?—A. I can only explain it in this way: If you show me an application for 160 acres of land, and if 40 acres of that land had been entered by somebody else before, I would not let you have that 160 acres until the 40 acres were released; and if this list contained 15,000 acres of a railroad grant, I would not certify it until this 15,000 acres were released by the railroad company.

Q. Where were the lands covered by this 50,000-acre list situated, in reference to the railroad limits?

Mr. DAVIS (to Mr. Redington). Do you contend that the lands in the 50,000-acre list were within the Ontonagon and State Line grant?

Mr. REDINGTON. I prefer to have the witness answer the question.

The WITNESS. All that I knew about it was that the Department claimed that there were railroad lands in it. I do not know whether the Department claimed that all or only part of the lands were railroad lands. Since the investigation came out, I see that there were 15,000 acres of lands within the railroad limits.

Q. Did you at the time you approved that list, and gave it to Mr. Avery, make any examination to see where these lands were?—A. Local land offices do not approve lists.

Q. What do they do with them?—A. We simply examine them, and see if they come in conflict with prior entries, or with State lands, and we collect the fees.

Q. Then what is done with the lists?—A. They are sent to the General Land Office.

Q. What certificate do you put upon them?—A. A certificate that we examined them.

Q. You do not call that an approval?—A. It is an approval, so far as it goes. But it is not an approval to the railroad company at all. The list comes to the Department here, and the Department rejects what lands it pleases, and makes out a new list entirely, on its own form or blank.

Mr. REDINGTON. The certification of the local land office is a notification to the General Land Office as to the condition of the lands in the local office. Here, of course, the Commissioner rejects or admits the list. But every list sent up by the register and receiver is certified.

Mr. PAYSON. Then the revision of the General Land Office is upon the data which is in the office here, made up from monthly returns sent from the local offices?

The WITNESS. The General Land Office here has the original records; and they should know, and do claim to know, here the status of the lands, for everything done in the local offices is re-examined here. If there is anything imperfect in a list, it is rejected, and canceled and sent back, and notice given to the parties that they cannot have the lands for certain reasons, and that they must make application for their money again.

By Mr. REDINGTON:

Q. When you approved that list, did you make any examination to

see where the lands were in reference to this railroad grant?—A. Only in a general way. I cannot tell you now from memory what towns and sections they were in.

Q. In a general way, where were the lands situated?—A. They were in the western part of our district.

Q. Were they between Ontonagon and the State line?—A. I should say they were out on the State line, south of Ontonagon.

Q. You mean between Ontonagon and the State line?—A. The State line runs north and south.

Q. I ask you whether those lands were between Ontonagon and the State line; meaning the State line of Wisconsin, where the lands terminate?—A. The lands were south of Ontonagon.

Q. Between Ontonagon and the State line?—A. Yes; of course they would have to be in Michigan, but they were on the border somewhere.

Q. Ontonagon lies nearly north, does it not, of the point on the Brulé River and State line which the Ontonagon and Brulé River Company claims now to dispose of?—A. Yes.

Q. And these lands lie between Ontonagon and the State line at that point?—A. Yes.

Q. Which is commonly referred to in all these papers as the State line?—A. Yes, sir; that is the way I should understand it.

Q. Were any lands in this list included within what were known as the common lands of the Marquette and State Line Company or the Ontonagon and State Line Company?—A. I should not think they came over as far as the Marquette and State line, and yet they may. They dodged around and took lands wherever they could get them.

Q. You know the common limits of the Ontonagon and State Line. You know what I mean?—A. Yes.

Q. Were any of the lands included in this list within those common limits?—A. I would not be positive about it; but, if I were going to answer from memory, I should say they were all part of the clear lands. But some of them might be in the common lands. My recollection would be that they were mostly in the clear limits.

Q. You wrote a letter to the Department and procured a diagram prior to this release from the State?—A. Yes.

Q. Do you recollect the date of your letter?—A. No; I cannot tell you.

Q. Was it October 28, 1869?—A. It may have been; I should think it probable that that was about the time it would have been written.

Q. I want to read you a portion of a letter which is found in the testimony taken in the case that I have already referred to:

LAND OFFICE, MARQUETTE, MICH., *October* 28, 1869.

Hon. JOS. S. WILSON,
Commissioner:

DEAR SIR: As the Portage Lake and Lake Superior Ship-Canal Company are desirous of completing their list of selections, and having the same certified by the register and receiver of this office, and in view of the fact that a portion of the selections made by the said Portage Lake Canal Company falls within the 6-mile limits of the grant of lands formerly set apart by the act of 3d June, 1856, for two branch lines of railroad to run from the Wisconsin State line to Marquette and Ontonagon, and the old diagram defining the limits of said railroad routes having been destroyed by the burning of this office in June, 1868, and the Department never having furnished it another, this office finds it difficult to define the 6-mile limits to said branch railroads.

Is that a portion of the letter?—A. I presume it is.

Q. Are the statements contained in this letter a true representation of the facts as they existed at the time?—A. I have no doubt that they are.

Q. Then you knew that a portion of the lands covered by this list was in conflict with the 6-mile limit of the Ontonagon and State Line Railroad?—A. I know that it was so claimed.

Q. You state in your letter that a portion of the selections fall within the 6-mile limits?—A. Yes; there were no other limits then, as I understand it.

Q. You did not know that a portion of that selection fell within the 6-mile limits of this grant?—A. I either knew it from the Department writing to the office, or from the statement of the State agent; I cannot say which.

Q. You had knowledge of the fact that they were within the 6-mile limits of this grant?—A. Yes.

The committee here took a recess.

After the recess the examination of Mr. AMBROSE CAMPBELL was continued:

The WITNESS. Before I proceed I would like to correct a former statement. I have been talking about 50,000 acres of land and giving my impressions or memory about it. I see by a printed letter in one of the pamphlets here that the Commissioner reported that the 50,000 acre list of the canal company was in the Marquette lands instead of in the lands of the other railroad company. Records are better than memory, and I wish to correct my statement. My impression was that they were in the lands of the other branch line.

By Mr. REDINGTON:

Q. Produce the pamphlet that has been shown you since the adjournment.—A. Here [indicating] is the letter that I refer to.

Q. What is the book that you have got in your hand?—A. I see that it is a history of correspondence.

Q. It is the book called the Canal History?—A. I suppose so.

Q. On what page is the letter?—A. On page 22. That is the first time I ever saw the letter. I suppose it is an official letter. I do not know anything about it except what I see in this pamphlet.

Q. Who showed you this letter since the adjournment?—A. Mr. Davis.

Q. What did he say to you about it?—A. He simply called my attention to it.

Q. What did he say to you?—A. That was all, I believe, that was said.

Q. What?—A. He simply called my attention to the letter, and I read it, to show that I was mistaken about the branch line, and that letter would imply that I was; that is all that I have to say about it.

Q. Do you know the date of that letter?—A. It was before 1869.

Q. Do you know the date of the release that you drew?—A. I do not know the date of the release to the Marquette branch line and to the common lands, but I believe it was some time in 1868.

Q. Do you know the date of the release that you drew?—A. I do not know it.

Q. Was it not 1870?—A. Yes, so the record says. I do not recollect from memory.

Q. Then, you say that you wrote to the Department and executed that release because of this 50,000-acre list, which was in your office, or in the possession of the agent of the company, and you got a diagram and drew up the release, and thereupon the list went forward. Now you say that, by reference to a letter written in 1869, you find out that

the lands were not in the Ontonagon and Brulé River grant?—A. That was the 50,000-acre list; there must have been some other list. I supposed it was the 50,000-acre list. That was my impression.

Q. And now your impression is that it was some other list?—A. It must have been some other list.

Q. Have you any idea of the amount of lands contained in the other list?—A. I have not.

Q. Then the 50,000-acre list talked about is not the list about which you wrote that letter at all?—A. That must be so.

Q. You cannot tell what other list it was?—A. No, I cannot; but my impression was that it was that list.

(The examination of Mr. Campbell was here suspended, in order that the question might be passed upon by the committee, whether the testimony of Captain McIntire and three other lake captains in regard to the navigation of the canal should be taken. After a long discussion between counsel on each side the members of the committee consulted, and Mr. Payson announced as the decision of the subcommittee, that in view of the statement made by Mr. Montgomery and Mr. Redington as to their misunderstanding of the arrangement, Captain McIntire should be sworn and examined; and then the subcommittee would determine, after hearing his testimony, whether the testimony should go upon the record.)

ALLEN MCINTIRE sworn and examined.

By Mr. MONTGOMERY:

Question. Where is your home?—Answer. In Chicago.

Q. How long have you lived in Chicago?—A. For the last eleven years I have had my headquarters there.

Q. Are you a sailor by occupation?—A. Yes.

Q. How long have you been sailing?—A. twenty-six or twenty-seven years.

Q. I believe that you are the master of the Peerless at present?—A. Yes.

Q. How long have you been master of the boat?—A. Since the spring of 1873.

Q. When was she completed, and when did she begin the navigation of the lakes?—A. In July, 1872.

Q. And you took command of her in the next spring?—A. Yes.

Q. In what trade has she been engaged all the time?—A. In the trade from Chicago to Lake Superior and different ports.

Q. What is the tonnage of the Peerless and her draught of water?—A. I do not recollect her new measurement. Her old measurement used to be 1,280 tons.

Q. And what was her draught of water?—A. Different draughts. About 13 feet is the deepest that we could load her to at any time.

Q. You know something about the Portage Lake Canal?—A. I have been through it several times.

Q. When did you first go through that canal?—A. In 1874, I think.

Q. With the steamer Peerless?—A. Yes, sir.

Q. She is a propeller, I suppose?—A. Yes.

Q. Did you go through that canal in 1873?—A. I do not think I did.

Q. Your recollection is that you first went through it in 1874?—A. Yes.

Q. Have you been through there every season since that time?—A. Yes; every season since.

Q. State what your experience has been, year by year, as to your ability to get through the canal.—A. For the first one or two years I do not recollect we had any trouble in getting through, but we seldom go through there fully loaded.

Q. Why?—A. We leave the principal part of our load at Portage Lake for the mining business.

Q. Was that so during the first one or two years of your navigating that canal?—A. Yes, sir.

Q. Why do you not go through the canal fully loaded?—A. One principal reason was that we did not have full loads to go through.

Q. What was your other reason?—A. I never had to leave any part of the load on account of not getting through, but I have had to shift the load from the aft part of the boat forward, in order to raise her up so as to get her over shallow water.

Q. How much water was the Peerless drawing when you were compelled to do that?—A. I was compelled one season (I do not know whether it was one year or two years ago) to get her to 11 feet of water so as to get through the piers.

Q. Tell the committee how much water it takes to float your boat if she draws 13 feet of water; how much water ought you to have to navigate her, I mean in still water where there is no current and no sea?—A. I have gone through with her when there was hardly an inch of water to spare; that is in sand or soft bottom; I would not do it over rocks.

Q. Can you navigate a canal where the water is still, with your vessel loaded so as to draw 11 feet, if you find 11 feet of water in the canal?—A. I think I could, by going slow.

Q. Do boats draw most water when they are loaded forward or loaded aft?—A. Generally when they are loaded mostly aft.

Q. And when you speak of trimming the cargo, you mean by loading her forward and lightening her aft?—A. Yes.

Q. So as to have a level keel?—A. Yes.

Q. Did you ever strike, or pound on the bottom in going through this canal?—A. I have rubbed on the bottom; but never struck, so as to have to go back; I have always got through.

Q. At what part of the canal did you rub?—A. Principally between the piers going into the canal.

Q. Have you ever been compelled to go around the point so as to avoid the canal?—A. Yes, when the water was bad; when there was a sea on.

Q. Is there, at the mouth of the Portage Lake Canal, and has there been since you knew it, a harbor of refuge, so understood by navigators?—A. It is very safe if a fellow is inside, but I would not like to try to get in in bad weather.

Q. Why?—A. On account of the shoal water at the mouth of the canal.

Q. During the last ten or twelve years, how many times do you think you have gone around Keweenaw Point rather than attempt to go through the Portage Lake Canal?—A. I used to wait at Bayfield and among the islands until the sea was so that I could come in; but, last fall, I had to go around once; it was in the beginning of November, I think; I was in a sea out there and I would not try the canal, and so I went around Keweenaw Point.

Q. Has the canal ever been in such shape as that you could enter it with your boat in rough weather?—A. Yes; I entered it once in rough weather; that was before I took into consideration that it was so shoal.

Q. What year was that?—A. I do not recollect exactly the year,

it is some six or seven years ago; she handled very badly in coming in there.

Q. What do you mean by her handling badly?—A. She could not steer well in shoal water; she struck upon the sand and tumbled in in a kind of unmanageable way.

Q. How was she loaded at that time?—A. She had about 300,000 feet of lumber in the hold; she was drawing about 11½ feet aft and 10½ feet forward.

Q. How wide was the channel where you came in?—A. I do not exactly know.

Q. Can you tell the committee how the channel is marked, if at all, at the mouth of the pier in order to indicate where the channel is?—A. Where they dredge during the summer in cleaning out the bar it is marked with two stakes with flags on them; that is in the wake of the dredge where the dredge has made cuts; it is about the center between the two piers.

Q. Is that so season by season?—A. Pretty much since they commenced to dredge.

Q. About how wide is it between those two stakes?—A. They looked pretty close together when I was approaching them, probably 50 or 60 feet apart.

Q. What time of the year do they usually dredge there?—A. They commence early in the season, I do not know how early; some time in June, and they are dredging along there, I suppose, until September or October.

Q. Did you have any trouble there last fall?—A. Only when I had to go around Keweenaw Point once.

Q. Judging this canal by what you know of similar structures in any other place, tell the committee whether there is a breakwater and a harbor there that answer the purposes of the boats that navigate those lakes?—A. The majority of the boats that sail the lakes cannot, when they are loaded, come in there, I think. I never heard that they would attempt it.

By Mr. McCARTER:

Q. How many times in the season have you gone through that canal?—A. It might average fourteen. I average about fourteen trips to the season, and I think that on an average I go through the canal both ways on eight or ten of those trips.

Mr. PAYSON. Do you speak of round trips or of single trips?

The WITNESS. Of round trips.

By Mr. McCARTER:

Q. That is sixteen or twenty times in the season that you pass through the canal?—A. Yes.

Q. Where do you ply from?—A. From Chicago to Duluth and the principal ports on the south shore of Lake Superior.

Q. Do you usually load your vessel so as to draw 13 feet?—A. No, sir.

Q. What is your usual draught?—A. We leave Chicago drawing 12½ feet aft and 11½ feet forward. That is the deepest that we can fill her with merchandise.

Q. Where do you first deposit any of your cargo?—A. Sault Ste. Marie is the first place where we begin to distribute.

Q. Do you distribute there because you cannot get through the canal or because you have the freight for that place?—A. Because we have the freight for that place.

Q. Where do you next distribute?—A. Marquette is the next principal place.

Q. You leave some cargo there?—A. Yes.

Q. Is it because you cannot get through the canal safely with it or because you have the freight for that place?—A. Because we have the freight.

Q. Where next do you distribute?—A. At different docks on Portage Lake—Houghton and Hancock.

Q. And there you also discharge some cargo?—A. Yes.

Q. And from there you go on through the canal?—A. Yes.

Q. Did you ever have to turn back after getting to Houghton and Hancock?—A. No, sir.

Q. You say you first went through this canal in 1874?—A. I think that that was the first year I went through the canal.

Q. And you say that you had no trouble for the first two or three years?—A. No, sir.

Q. With whatever load you had you went through without any difficulty?—A. We went through without difficulty.

Q. Did you select your freights and make your load with reference to going through the canal, or did you do so with reference to the ports to which you had merchandise to carry?—A. We selected and made our loads for the ports that we had to carry merchandise to. We have had to trim the boat sometimes so as to get through the canal without striking the shoe. We load both with reference to going through the canal and with reference to distributing freight along the route.

Q. You have the freight for those places?—A. Yes.

Q. And so you distribute your load with reference to the kind of navigation you have to encounter?—A. Yes.

Q. The difficulty that you encountered at this canal was between the piers, you say?—A. Between the piers principally.

Q. When did you encounter this difficulty?—A. I cannot recollect exactly the date. It is some years back.

Q. How long ago?—A. Maybe for the last six or seven years. There may have been two years that we did not think of any difficulty between the piers at all. Then we found difficulty in the boat striking there.

Q. You said upon your principal examination that for the first one or two years you had no trouble in going through fully loaded?—A. We never went through fully loaded.

Q. You had to discharge part of your load?—A. Yes. The first year that I went through, the boat went aground at the lower end of the canal. But she was not in the middle of the channel. She was nearer one bank than the other.

Q. You said that, two springs ago, you went around Keweenaw Point because the boat was loaded to 11 feet and you did not like to go through the piers?—A. Two springs ago I had to trim the boat in order to get through.

Q. Where were you when you trimmed?—A. In Portage Lake.

Q. And you were drawing 12½ feet aft and 11½ forward?—A. No. I came in last fall drawing 12 feet and a few inches aft, and about 11 feet forward. That was the deepest load that we ever came through there with.

Q. How many times has it ever occurred that you have attempted to get through that canal with such a load as you had and have failed to get through?—A. I never had to turn back; whenever I tried to get through, I managed to get through.

Q. How many seasons have you ever stuck between the piers?—A. Almost every season for the last four or five years.

Q. At what time of the year?—A. In the spring, principally.

Q. Before the dredging was done?—A. Before the dredging was done, and sometimes while they were doing the dredging.

Q. You say that while the dredging was going on there they had stakes with flags on?—A. Yes; and the stakes were there after the dredgers left. That was to show the channel.

Q. Was it to show the channel or to mark where the dredgers were to work?—A. It was to show the channel.

Q. How do you know that?—A. Because Mr. Pryor used to tell us.

Q. You say that these stakes were only 50 feet apart?—A. I should not think they were more than 50 or 60 feet apart. That is my judgment, looking at them from a distance. I could not see either of them when passing through.

Q. What was the width of your vessel across the beam?—A. About 35 feet. On the main deck she was a little more than 35 feet.

Q. Last fall you went around Keweenaw Point rather than go in by the canal?—A. Yes.

Q. What kind of weather was it?—A. The wind was from the northwest and there was considerable lump of a sea.

Q. Did you try to get in?—A. No, sir.

Q. Why?—A. Because I did not consider it safe. I considered that it would be endangering the boat.

Q. What did you fear?—A. Striking on the sand and twisting around, not steering right.

Q. You did not think there would be depth enough of water to steer by?—A. No; nor to get in without pounding on the bottom.

Q. Do you know what depth of water there was there at that time?—A. I was told that there was a good 12 feet or 12½ feet.

Q. Who told you that?—A. I generally understood it so.

Mr. PAYSON. You are speaking now of the mouth of the piers, are you?

The WITNESS. Yes.

By Mr. MCCARTER:

Q. You did not make the effort to go through the canal, not thinking it safe in that kind of weather?—A. No, sir; I would not make the effort.

Q. You say that the majority of boats that ply the lakes cannot come in there. Tell us about any boat that plies the lakes that cannot go through this canal?—A. I think that a great many of those large-draught boats when they load 13 or 14 feet cannot come through.

Q. To what boats do you refer?—A. To several of them.

Q. State their names?—A. The Hope, the Siberia, the Waloola, and several others.

Q. Where do they trade to?—A. They trade generally all over the lakes, but they very often get loads from Cleveland to Duluth.

Q. Vessels from Cleveland to Duluth would not ordinarily go through this canal, would they?—A. No, sir.

Q. It would not be any advantage to them to go through the canal?—A. No, sir; nor would they want to pay the tolls. When loaded down 13 or 14 feet they could not go through.

Mr. SHAW. Is this canal a toll concern?

Mr. DAVIS. Yes. There are two companies at both ends of the lake, and boats going through have to pay toll.

Mr. SHAW (to the witness). Would it facilitate the passage of boats to have a canal here 100 feet wide at the bottom, as well as 100 feet wide at the top?

The WITNESS. Yes, very much.

Mr. SHAW. You spoke of touching the shoe. What do you mean by that? Do you mean the slope at the bottom?

The WITNESS. What we term a shoe is a part of the keel which runs out under the propelling-wheel, to rest the rudder on.

Mr. SHAW. You say it would facilitate navigation and make it more certain and convenient if this canal were 100 feet wide at the bottom, as well as at the top?

The WITNESS. Yes, sir.

By Mr. MCCARTER:

Q. You say that they commence dredging in June, and continue, usually, until September or October; do they keep at work dredging all the summer?—A. Pretty much during the summer months. I cannot give the dates or months, but I see them there generally during the summer months.

Q. You have not noticed particularly what precise months the dredging is going on?—A. I know it is in these months, for, when I come through in rough weather, the dredgers are not there.

Q. You think they are generally there in summer because it is good weather then?—A. I know they are there in June and July and August and September, and they may be there a part of October for all that I remember.

By Mr. DAVIS:

Q. How about those boats that navigate the lakes and do not go through the canal. Do you know any boats that have passed into Portage Lake which do not go through the canal? Is it not true that all vessels having business at Portage Lake and Houghton and Hancock go through the canal?—A. I think some of them come the other way by Keweenaw Point.

Q. What boats do so?—A. I cannot exactly give you their names now. I remember of hearing of boats that do it. I think that the Smith Moore had to do it.

Q. What sort of a boat is she?—A. She is a large steam barge.

Q. Where does she trade?—A. Generally along on the lakes wherever she gets the best freights.

Q. She trades from where to where?—A. She trades to Marquette and Duluth and all the principal places.

Q. From where; from Chicago?—A. No, from Cleveland.

Q. Is she on the line now?—A. I cannot say for certain that that is the boat, but I remember hearing of a boat that would not go through the canal. I cannot say positively whether she is the boat or not.

Q. Do you know of any boat that trades to Portage Lake and to Duluth that does not go through the canal?—A. I know that those boats which load to 13 or 14 feet of water do not go through the canal.

Q. You mean these barges?—A. Yes, sir.

Q. But they do not go to Houghton at all, do they?—A. I do not recollect ever seeing them there.

Q. They are outside boats?—A. They are not regular line boats.

Q. Their business is between Cleveland and Duluth?—A. Wherever they get a good load for, they go.

Q. Do you know any boat that trades between the lower ports and

Portage Lake and Duluth which cannot go through this canal and does not go through this canal?—A. I do not recollect of any that go through when they are in such trim as they generally are.

Q. Do you know of any that do not go through there when they are not in such trim?—A. I cannot recollect.

Q. Can you name a single boat that does not go through there?—A. I cannot.

Q. You say that you struck there last fall when you were coming in. How deeply were you loaded?

The WITNESS. Did I say that I struck there last fall?

Mr. DAVIS. No; you said that you went around. How deep were you loaded on that occasion?—A. I do not think I had more than 12 feet aft and probably 10½ or 11 feet forward.

Q. How much sea was there on?—A. I do not know exactly how to describe it. There was quite a lump of a sea—nothing, however, that would prevent me going through the lakes comfortable and safe and sound.

Q. The Peerless is a fine stanch boat, is she not?—A. Yes.

Q. She would go through almost anything?—A. Yes. She has for twelve years gone through.

Q. At the time that you declined to go through with her, there was a fresh breeze from the northwest, was there not?—A. Yes.

Q. There was a gale, was there not?—A. I could not call it exactly a gale. It was enough to prevent my going through the canal.

Q. You did not go through the canal at that time?—A. I have said that half a dozen times.

Q. When you say that there is 12 or 13 feet of water between the piers what do you know about it?

The WITNESS. Did I say that?

Mr. DAVIS. How much water was there between the piers?—A. I did not sound it.

Q. Do you know how much water there was between the piers?—A. Not at that time, but I knew that I would not try to get in there any way. I would not consider it safe.

Q. How much water there was you cannot tell?—A. No, I cannot tell, nor how much of the place was dredged out. I know that it was very narrow anyhow—too narrow for me to try to come in with that sea.

Q. You say that if the canal was 100 feet wide at the bottom it would be a great improvement?—A. The wider the bottom is the better a boat will steer, and the less apt she is to get aground; particularly if she takes a sheer and does not steer good.

Q. Why should she take a sheer in still water?—A. That is a question I would like to know. But boats do so.

Q. Does the Peerless sheer in the canal going through?—A. Very often.

Q. Suppose you have a canal 100 feet wide at the bottom, how much nearer the sides of the canal could you go?—A. I could go right alongside.

Q. Then where would your guards be?—A. They would be lying over the side of the canal.

Q. Over the canal would they be?—A. In some places.

Q. Could you go alongside of the canal?—A. I was not speaking exclusively about the Peerless.

Q. I am speaking about the Peerless. Suppose you were going along with the Peerless, with the bottom of this canal 100 feet wide, and sup-

pose you go against the side of the canal with the Peerless, where would her guards be?—A. Over the banks.

Q. Then they would tear out the sheet-piling?—A. There is a string on the top of the sheet-piling.

Q. Would you run your boat up to the margin of the canal?—A. No, I would not try it; but I have gone through narrow places with the guards over.

Q. Your object is to keep away from the side of the canal, is it not?—A. Not particularly; I have often gone in alongside of that canal.

Q. But in such a canal, with 100 feet width at the bottom, you say your guards would go over the sides of the canal; is it desirable to run the guards of the boat over the sides of the canal?—A. I do not know that it is very desirable.

Q. Is not that exactly what you try to avoid?—A. I would not like to do it; I would not calculate on running a boat in that way.

Q. Do you know anything about any canals besides this one?—A. I have been through the Sault Ste. Marie Canal and this one.

Q. Have you been through any other canal?—A. Not that I remember.

Q. Did you ever pass a boat in this canal?—A. Yes.

Q. Where did you pass her?—A. About half way in the canal.

Q. At Lily Pond?—A. No, sir.

Q. In the canal itself?—A. Yes.

Q. Have you done so more than once?—A. I believe I have only done it twice.

Q. Where was this place between the piers where you touched the bottom; was it at the end of the piers?—A. Yes, and pretty nearly the length of the piers coming in, until I got to the base of the piers.

Q. That was in the spring before dredging?—A. Principally.

Q. Suppose you were drawing 12 feet of water with a big sea on, how much water ought you to have?—A. We ought to have a foot to spare anyhow.

Q. Suppose you have a big sea on, how much water would you want?—A. With a big sea on I would want a couple of feet to spare coming in there.

Q. Do you want the committee to understand that if your boat was drawing 12 feet, 14 feet of water would be enough for you to sail in with a big sea on and with a gale of wind?—A. I think I could come into that canal with 2 feet of water to spare.

Q. You think you would come in between the piers with 2 feet to spare?—A. Yes.

Q. And in a gale of wind?—A. In a gale of wind.

By Mr. PAYSON:

Q. You say that you commenced the navigation of this canal in the season of 1874?—A. Yes.

Q. After you commenced the navigation of this canal how long was it before you experienced any difficulty with your boat?—A. I think about the second season.

Q. That would be the season of 1875?—A. I would not say the second season; I cannot be definite about it.

Q. Have you any means of knowing, or do you know, anything about the condition of that canal as to its depth of water in the season of 1874, the first season that you went through it?—A. I have not.

Q. You went through it safely?—A. I did not look for any difficulty, and did not meet any.

Q. You say that the difficulty which you first encountered was at the end of the piers?—A. Yes.

Q. What was the difficulty there; was it on account of shoal water?—A. Yes; shoal water; filling up with sand.

By Mr. MONTGOMERY:

Q. And that shoal extended to the shore-line?—A. Yes.

Q. You told our friends on the other side that you load your vessel to discharge cargo at this place, and at that place, and at the other place. Now, suppose you have a full cargo to be taken from Chicago to Duluth, would you load for Duluth and go through this Portage Lake Canal?—A. No, sir.

Q. For what reason?—A. On account of the shoalness of the water.

Q. What proportion of a full cargo would you dare to take on board, intending to take it through this canal?—A. There are different sorts of cargoes. Some cargoes fill up the boat and do not load it very deep, while other cargoes load it to its full capacity. I would not like to go through the canal its best time with more than 12 feet and 2 or 3 inches.

Q. What you mean by that is, that if your boat draws 12 feet and a little over, that is about as deep as you would dare to load her and go through this canal?—A. I would not be sure of getting through then.

Q. And you have told us you could go through with your vessel drawing 12 feet of water if you have 12 clean feet?—A. Yes; in still water. I could work her through.

Q. You were asked if you had ever been compelled to turn back and go around by Keweenaw Point after attempting to pass this canal, and you say you never have been?—A. No.

Q. Have you ever gone around Keweenaw Point without attempting to pass through this canal, when you would have liked to go through, excepting that time last year?—A. No; excepting that time last fall when I went around in bad weather.

Q. Have you ever, on any occasion except the one you have told us about, refrained from trying to go through the canal on account of its condition, when you would have liked to go through if you could?

Mr. PAYSON. Were you ever compelled to go around more than once?

The WITNESS. No. I never was compelled to go around more than once. I used to calculate on taking my deck load of lumber on at Marquette so as to be light enough to go through the canal.

By Mr. MONTGOMERY:

Q. You say that you did once or twice pass another boat in the canal?—A. Yes.

Q. Did you do that any time with the boats loaded?—A. Neither boat was loaded.

Q. Would it be possible for two vessels like the Peerless, both loaded, to pass each other in the canal?—A. I do not know about boats like the Peerless. The boats that passed were not so broad as the Peerless.

Q. Two ordinary boats, loaded to their capacity, could they meet and pass each other outside of Lily Pond?—A. I never sounded the water in the rest of the canal; but I have struck bottom about half way between Lily Pond and the shore-line.

Q. When was that?—A. Three or four years ago. That was between Lily Pond and the shore line of Lake Superior. But the difficulty at the place where I struck has since been removed with a dredge.

Q. What was the difficulty?—A. It was some hard substance; it may ave been a log.

By Mr. DAVIS:

Q. You say that if you got a full load at Chicago for Duluth, you would not attempt to go through the canal. How much water would the Peerless draw with a full load?—A. Between 12½ and 13 feet.

Q. And then you would not go through the canal?—A. I would not like to try.

Q. If you had a full load from Chicago to Duluth you would not want to go through the canal, would you?—A. No; I would not want to go through it at all.

At the conclusion of the witness's testimony Mr. Payson announced that the subcommittee had come to the conclusion that this testimony might go into the record, but that the subcommittee was unanimously of the opinion that it would not hear anything more on the subject.

Mr. Montgomery remarked that the testimony of the other lake captains would be substantially the same as that of Captain McIntire.

Mr. Redington remarked that their testimony would be more in detail, but that in substance it was like that of Captain McIntire. He asked whether the subcommittee had made a ruling that it would not hear the testimony of the other witnesses.

Mr. Payson said that the subcommittee was unanimous in the opinion that no more time ought to be consumed with witnesses on that point. They agreed that Captain McIntire's testimony might go into the record so that the full committee might see what the testimony of the lake captains would be, assuming that Captain McIntire's testimony was substantially the same as that of the others. The subcommittee adhered to what had been said before, that the testimony on that question was now closed.

Mr. REDINGTON. Then it is understood that the subcommittee will take the judgment of the full committee on that matter?

Mr. PAYSON. The testimony of Captain McIntire will be put into the record for the purpose of having it placed before the full committee.

AUGUSTUS C. BROWN sworn and examined.

By Mr. MONTGOMERY:

Question. Where do you reside?—Answer. In Marinette, Wis.

Q. Across the river from Menominee, in Michigan?—A. Yes.

Q. How many years have you lived there?—A. About twenty five years.

Q. What has been your employment for the past fifteen years?—A. For fifteen years I have been engaged in the lumber business.

Q. In what capacity?—A. As superintendent of the North Ludington Company.

Q. In what way were you engaged in the summer and fall of 1878?—A. In mining.

Q. In what capacity?—A. As agent and general manager at the mines.

Q. During the summer or fall of 1873 did you have an application from any source to make a purchase of any of the lands involved in this matter? I refer to the application of Mr. Selden.—A. Yes.

Q. Within what grant were those lands?—A. As I understand, they were within the grant of the Ontonagon and Brulé River line.

Q. At what time did you have that talk with Mr. Selden?—A. In the latter part of 1878; in August or September; I am not postive but that it was in October.

Q. Was that before or after Mr. Selden located some lands there him-

self?—A. It was about the same time. I am not positive whether it was before or after; but I think it was before.

Q. What was substantially Mr. Selden's communication to you on the subject?

Mr. Payson asked Mr. Redington what he proposed to prove.

Mr. Redington replied that he proposed to prove by this witness that he was solicited by Mr. Selden, and others, to go into a combination or arrangement for the locating of certain lands within a railroad grant, and that he declined on the ground that the lands were not subject to entry, and that those parties so informed him.

Mr. PAYSON. You mean Selden and others?

Mr. REDINGTON. Yes. And notwithstanding, after that they did go in and enter some of those lands under the administration of Mr. Campbell, as I understand. Then we propose by the subsequent examination of other witnesses to connect those same lands applied for with the canal lands that were selected.

Mr. PAYSON. With that end in view?

Mr. REDINGTON. We charge an improper action on the part of Mr. Campbell, as register, in favor of the canal company; and we charge also favoritism and discrimination in favor of individuals in the disposition of the public lands lying within the Ontonagon and Brulé River grant. Now, we propose to show what was done by this witness in the way of entering those same lands, under Mr. Campbell's administration.

Mr. PAYSON. In other words, you want to show by this witness that he proposed to enter lands, and could not enter them at the land office at Marquette, and that subsequently the land office at Marquette, without any instruction from the General Land Office, allowed the canal company to take the same lands.

Mr. REDINGTON. I do not say exactly the same lands, but lands occupying the same status. In other words, that the applications to enter those lands were known to be applications to take lands that were not subject to entry, and that Mr. Campbell knew that fact.

The testimony was permitted to be offered.

By Mr. MONTGOMERY:

Q. What did Selden say to you?—A. I cannot give the conversation. I can only give you what I remember—the substance of it.

Q. Give us the substance of it.—A. He said that there was an old lapsed railroad grant, and that the lands could be entered. He thought there would be some mineral in them, and that it would be good policy to enter them. I told him that I would look the thing up; that I had heard of this old grant, but knew nothing personally about it. I found out afterwards——

Mr. PAYSON. Tell what Selden and you said.

The WITNESS. I did not want to invest in it.

By Mr. MONTGOMERY:

Q. Did you tell Selden why you would not invest in it?—A. Yes.

Q. What did you tell him?—A. I told him I thought, in regard to this lapsed railroad grant, that there was a cloud on the title.

Q. Do you know whether or not Mr. Selden did afterwards locate or purchase some of those lands?—A. It was reported that he did. Not to my own knowledge.

Q. Did you afterwards make a purchase within the same limits?—A. Yes.

Q. At what time, and through whose solicitation?—A. In April, 1870, through Mr. Selden's son.

Q. Did you have any talk with other parties living there, on the subject of those lands being reserved from the market?

Mr. Davis asked whether that was admissible.

Mr. Redington said that they expected to connect the testimony with Mr. Campbell.

Mr. Payson said that the committee would assume, of course, that counsel meant what he said.

By Mr. REDINGTON:

Question repeated.—A. Yes.

Q. With whom?—A. It was a subject of general conversation.

Q. State to the committee whether or not it was generally known there among men dealing in lands that these lands were within what was termed a lapsed railroad grant?—A. I think it was at that time.

Q. Afterwards you say that in 1880 you did buy some of the lands?—A. Yes, sir.

Q. At the solicitation of young Mr. Selden?—A. Yes.

Q. You bought them knowing the situation, did you?—A. Yes.

Q. Who was engaged with you in that purchase?—A. I afterwards turned over the land to the Menominee Mining Company. The company did not know anything of my purchase at the time.

Q. Was Mr. Hegeman connected in it?—A. He was the president of the company.

By Mr. DAVIS:

Q. The land that you bought was in sections 15, 42, 35; 21, 42, 37; and 17, 42, 35?—A. Yes, I think so.

Q. You bought 280 acres, did you?—A. I think 560 acres altogether.

Q. Of odd sections you bought 280 acres, did you not?—A. Yes.

Q. You bought this land first in your own name?—A. Yes, sir.

Q. And subsequently sold it to your company—the Menominee Mining Company?—A. Yes, sir.

Q. And that land is now owned by the Menominee Mining Company?—A. Yes.

Mr. PAYSON. What did you mean by saying that the company did not know of the purchase?—A. I mean that I did it individually. The company did not know anything of it at the time.

By Mr. DAVIS:

Q. You meant that you purchased the land on your own account without the knowledge of the Menominee Mining Company?—A. Yes.

Q. And subsequently sold it to the mining company?—A. Yes.

Q. With which company you were connected, and one of its officers?—A. Yes, sir.

By Mr. REDINGTON:

Q. Did you expect to hold that land?—A. I was willing to take my chances of it.

Q. If you lost it, you were willing to stand the loss?—A. Yes. I did not know anything about this railroad grant until 1878. I never entered any land in that vicinity until my attention was called to it.

By Mr. MONTGOMERY:

Q. That is, when Mr. Selden told you of it?—A. Yes; about that time.

AMBROSE CAMPBELL recalled.

By Mr. REDINGTON:

Question. After the fixing up of this land for the canal company, when next did you receive any information from the Department with regard to the status of those lands?—Answer. I do not recollect ever having received any information, only as to the one list which we were talking about to-day, called the railroad list.

Q. Did you never receive any other communication during your term of office relative to the status of the lands or to the old grant of the Ontonagon and State Line Company?—A. The only letter I received from the Department was in May, 1873, in answer to one which I wrote.

Q. Tell me under what circumstances you came to write that letter?—A. If you will let me go on for a little time I can give you the real status, so far as my memory serves me, as to how I came to write the letter. There were some entries being made up there in that part of the country. Up to 1870 there were but very few applications made for any land there. It was considered "in" country, and not of any considerable value. Along in 1871, or prior to that, I guess, I had admitted a few entries; but it struck me all at once that I had drawn the deeds of relinquishment for the clear lands of the Ontonagon and Brulé River grant, and that it could not be possible that those lands were restored to market. In 1872 I wrote to the Department to know what lands, if any, were not properly restored to market there. That brought the letter of 1873 from the Department, which brought me the list descriptive, which list I afterwards kept in my desk, and when applications were made for lands, I endeavored not to locate anything on this Ontonagon and Brulé River grant. I held that list in *statu quo* during my whole term of office. But the Department went on patenting the lands, and I took it for granted that all lands outside of that list were subject to entry, and I sold them.

Mr. DAVIS. That list is called the Bagley list.

The WITNESS. I supposed when I got that list descriptive that my impression was correct that the clear lands which had been relinquished in 1870 were not put back into the market, and consequently were not subject to sale or entry for cash.

By Mr. REDINGTON:

Q. When did you receive that letter from the Department?—A. I think in May, 1873.

Q. Do you know the date of the letter?—A. I cannot tell it.

Q. Was it not May 29, 1873?—A. It was some time about there. Of course the original will show better than my memory can after sixteen or seventeen years.

Q. If the letter was dated May 29, 1873, when, in the usual course of mail, would you have received it at Marquette?—A. It would come there in less than a week.

By Mr. REDINGTON:

Q. You say that this letter was in answer to one which you sent to the Department?—A. I suppose it was. I wrote to the Department.

Q. When did you write to the Department?—A. In August, 1872. They were a good while answering the letter, but finally they answered it, as I supposed.

Q. Then, it was an answer to your letter?—A. I took it for granted that it was an answer.

Q. Have you got the letter which you wrote in August, 1872?—A.

There is a copy of it in the land office at Marquette, and it should be here in the General Land Office.

Q. Is it now on file in the Marquette land office?—A. It is, in the letter-book there.

Q. When did you see it last?—A. It is some time since I saw it last.

Q. Do you know whether there is such a letter in the General Land Office?—A. I suppose there is.

Q. Would you know the letter if you saw it?—A. I should know my own handwriting.

Q. Would you know the substance of the letter if I read it to you?—A. I presume I would, pretty nearly.

Q. What did you say to the Commissioner in that letter?—A. I cannot recollect.

Mr. Davis said that he had a certified copy of the letter, and that he was prepared to produce it.

Mr. Redington asked him to produce it.

Mr. Davis handed a certified copy to Mr. Redington.

Mr. REDINGTON. This will not do.

Mr. DAVIS. Why not? That is the letter.

Mr. REDINGTON. I do not know about that.

Mr. DAVIS. I do.

Mr. Redington having examined the paper, handed it to the witness.

Q. Look at this letter and see if it is a copy of the letter which you wrote to the Department.—A. (After examining it.) I should think it was a copy of the letter.

Q. What was it that you asked the Department in that letter to do?

Mr. PAYSON. The letter will show for itself.

Q. You say that in response to this letter, as you suppose, there was written a letter to you in May, 1873?—A. Yes.

Q. This letter of yours is dated August, 1872?—A. Yes.

Q. Look at the letter on page 123 of the volume of the Railroad History, and say whether it is the letter sent to you from the General Land Office in 1873.—A. I should say that this was a copy of the letter which I received in answer to the letter that I have just spoken of.

Mr. Redington offered the letter in evidence, as follows:

DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE,
May 29, 1873.

REGISTER and RECEIVER,
Marquette, Mich.:

GENTLEMEN: I transmit herewith a list of lands formerly withdrawn from market and approved to the State for the benefit of the Ontonagon and Marquette branches of the Chicago, Saint Paul and Fond du Lac Railroad, and outside of the 20-mile limits of the Marquette, Houghton and Ontonagon Railroad.

The same having been duly relinquished by the State, will be restored to their original condition prior to withdrawal.

In order to carry the restoration into effect, you will give notice, by publication in the newspaper having the largest circulation in your district, that upon a certain day to be fixed by you, and not less than 30 days from date of notice, the described tracts will again become subject to pre-emption, homestead, and private entry at $1.25 per acre.

This notice you will cause to be published not less than once a week for four consecutive weeks, the same to be paid for by the receiver as disbursing agent, he entering it in his proper account and sending as voucher a copy of the notice with publisher's certificate of publication and his receipt for payment. You will also, immediately upon publication, send a copy of the paper containing the notice to this office, that we may be made aware of the date of restoration.

It appears from your returns that you have already allowed a number of entries of these lands, without authority from this office; these will be submitted to the board established for equitable adjudication; but you will not permit any further entries until the date of restoration, or recognize any pre-emption claims initiated prior to that time.

Q. Is there anything in that letter that refers to the letter which you had written?—A. I took it for granted that it referred to that letter.

Q. Is there anything in the letter which refers to your previous letter, by date or otherwise?—A. No.

Q. Is there anything in that letter which refers to your previous letter as having been received?—A. I do not know that there is. The letters will explain themselves better than I can.

Q. Is there anything in the letter at all to indicate that it was intended to be an answer to the request which you had preferred to the Department?—A. The Land Department can answer that question better than I can.

Q. I ask you, from the reading of this letter, whether there is a word of it which, in your judgment, refers to a letter which you had written? If there is, I want you to point it out.—A. I have read the letter in the book. I do not know that there is anything there which refers to my letter.

Q. Do you not know that there is nothing there which refers to your letter?—A. I say that there is nothing there which I know of that refers to my letter.

Q. Then why do you say that this letter is an answer to yours dated August 16, 1872?—A. From natural circumstances I have taken it to be so.

Q. Is that letter, in any respect, responsive to a request from you to be furnished with a list of the lands in that district subject to sale?—A. Thus far it would be. I wrote to know what lands were subject to sale, or I wrote for information on that subject, and getting a letter with a descriptive list of lands that were not for sale, I took it for granted that I could not take any other view of it.

Q. Then you inferred from the reception of a list of lands that were not subject to sale that all the rest of the lands in the district were subject to sale?—A. Yes; of course.

Q. Did you infer that all the lands of the Ontonagon, Marquette and Houghton Railroad grant were subject to sale?—A. No; I had positive evidence that they were not.

Q. And yet the Land Office did not say that they were not for sale?—A. That was a different thing.

Q. Did you consider all the canal lands in your district unselected and unlisted as subject to sale after you had received that order?—A. I did, outside of these selections.

Q. Did you consider the Indian reservation there as subject to sale after you got this letter?—A. Of course not.

Q. Did you consider any lands that were reserved subject to sale after you received that letter?—A. I want to make an explanation right here.

Q. Answer my question. Did you consider any lands withdrawn from your office as subject to sale after the reception of this list?—A. I did not regard any lands as subject to sale of which I had evidence in the office that they were not subject to sale.

Q. Did you regard any lands that had been formerly withdrawn from market and not restored (outside of the list) as subject to sale after the reception of that list?—A. Not if I knew it.

Q. You knew of the withdrawal of the Ontonagon and Brulé River Company's lands?—A. Yes.

Q. You had been advised to that effect by the lists which were sent to you when you made out the release to the canal company?—A. Yes, so far as the clear lands were concerned.

Q. Your tract books also showed a withdrawal for that company?—A. Yes.

Q. And your plat book also showed the limits marked on it?—A. Yes.

Q. Had you not information in your office from the plats, from the tract books, and from the correspondence which resulted in this release, showing you that lands had been certified outside of that list?—A. Yes; but I had no evidence that the lands had not been put back again in the market.

Q. You inferred, because you had this list sent to you, that lands which were marked on the tract books and plats and were shown by this correspondence to have been reserved, had been restored to market, notwithstanding you had no copies of the restoration in your office?—A. I had a notice of restoration.

Q. When?—A. In 1878.

Q. Of these railroad lands?—A. Of all the lands withdrawn by the Commissioner's letter of 1868.

Q. What was the date of that?—A. The Hon. Joseph Wilson, Commissioner, issued a notice in 1878, I think.

Q. We are talking of 1873—five years earlier. Had you any information or record on the files of your office showing a restoration of those lands in 1873?—A. Not unless they were included in the restoration made in 1868.

Q. There was a restoration in 1868, was there?—A. All the lands formerly withdrawn for the Portage Lake Canal Company to select from were restored to market in 1868.

Q. Is there any record of that in your office?—A. No, sir; the list was burned up.

Q. Is there any record of it in the General Land Office?—A. I tried to find one a few years ago, but I could not find it.

Q. You tried to get that list and you did not find it?—A. No.

Q. And you have not got any in the land office at Marquette?—A. Not that I know of.

Q. Except the restoration of 1868, had you, at the time this list of 1875 was sent to you, any notification of restoration of lands along the Ontonagon and Brulé River grant?—A. No, sir.

Q. At the date when this list of 1873 was received at your office, did not the tract books, the plats, and the correspondence of 1871 relating to the release of the railroad lands all show a reservation of lands for the benefit of the Ontonagon and State Line Railroad Company outside of this list?—A. They showed that there had been such reservation.

Q. Was there any record in your office at that date showing any restoration of those lands?—A. Not that I know of, or I should not have asked the question I did.

Q. Then there was no record showing a restoration of the lands?—A. No, sir.

Q. There had been a reservation of them?—A. Yes.

Q. Then is it not a fact that, when you got this list of 1873, there was, so far as the records in your office showed, a reservation for the benefit of that railroad company, which had never been released, so far as your records showed?—A. The lands had been released by the railroad company and by the State.

Q. Was there any Executive action whatever of record in your office at the date of the receipt of that letter of 1873, putting back into the market any of these railroad lands that had been withdrawn in 1856?—A. That is what I wrote to the Department about in 1872.

Q. Was there any record of it at that time?—A. I said I had not any record, and I wrote to know about it.

Q. The records of the land office at Marquette showed that there had been a reservation?—A. Yes.

Q. And the records did not show any restoration of the land when you got this list in 1873?—A. No, sir.

Q. And there were lands within that reservation not included in this list, were there not? I mean lands included in the original reservation and not covered by this list.—A. Yes; in the original grant; a large amount of them.

Q. Why was it that you respected the canal reservation, that you respected the Indian reservation, that you respected the Marquette, Houghton and Ontonagon reservation, in connection with this list, and yet did not respect the reservation for the Ontonagon and State Line Railroad?—A. I respected the canal reservation and all those reservations just the same as I did that. I respected that until the notice of 1868, restoring the canal reservation back again.

Q. Have you not already testified that you had no record evidence in your office of this restoration, and that you could not find it in the General Land Office?—A. I knew that there was evidence of it in the land office at Marquette formerly.

Q. Did you ever have a single particle of evidence in your office showing that restoration?—A. Yes; the restoration came while I was register just before the office was burned.

Q. When you got this list, had you in the office a particle of evidence of that restoration?—A. I had not.

Q. Then why was it that you respected the Marquette, Houghton and Ontonagon withdrawal, and the canal withdrawal, and the Indian reservation, and yet paid no attention to the withdrawal for the Ontonagon and State Line Railroad Company?—A. I suppose that this had all been wiped out by the relinquishment.

Mr. PAYSON. By the relinquishment on the part of the State of Michigan?

The WITNESS. Yes. In fact I knew that the General Land Office considered it in the same light. I made returns every month, and the Department acquiesced in all the work done in my office and never notified me that I was on forbidden ground.

Mr. PAYSON. I do not exactly understand this restoration of 1868. What did it purport to restore?

The WITNESS. Before I took the office there had been a withdrawal made north of township 40, and west of ranges 22 and 23—clear through to the State line—for the benefit of the Portage Lake Canal Company to select from. That was made prior to my taking the office. I took the office on the 1st of April, 1868, and within a few days after I took the office notice came from the Land Department here restoring that land back to market.

By Mr. REDINGTON:

Q. I want to know whether that restoration of 1868, which you talk about, was in any way noted on any of the papers that you got from the General Land Office to replace the records that were lost in the fire?—A. Not that I know of.

Q. If any restoration was made in 1868, did it go into effect?—A. I suppose so.

Q. Do you not know that the land office was burned before this restoration, by its terms, went into effect?—A. Yes.

Q. Was there any restoration made, or were there any sales made, under the order?—A. There were, after the office was reopened in August. There never was any other restoration of those lands made. The Department here sent one of its chief clerks there to instruct me, and I went right on under that notice.

Q. Do you not know that, before the expiration of that order of restoration (whatever it was and whatever land it included), your office was burned with all the records, and that on the day when the sales should have taken place there was nothing but smoldering ruins; and do you not know that there was no public offering of the lands made, and that nobody did have any of the lands?—A. Yes, sir.

Q. Do you not know that the land office was then closed for several months, and that, after it was reopened, this record was not placed in the office at all; do you not know that?—A. Yes.

Q. Knowing that, why do you say that this restoration took effect on the reopening of your office?—A. You have got into deeper water than I can follow you in; you have got to go to the Department for that information.

Mr. PAYSON. Is it assumed that this order of restoration required a second offering of the land at public auction in its terms?

The WITNESS. The order of restoration is simply to give notice that on a certain day the land will be put back into the market at a dollar and a quarter an acre, and that if there be two applications for the same tract that tract shall be offered at public sale.

Mr. PAYSON. Suppose I had gone to that office after the notice of restoration was received, as you say, and had applied to enter a section of land, and there was no competitor as against my entry, what would the course of business be?

The WITNESS. After the date of the notice expired you would take the land at the Government price.

Mr. PAYSON. That was your understanding of the effect of the order?

The WITNESS. Yes.

By Mr. REDINGTON:

Q. Except that restoration, which never took effect on account of the burning of the offices, and the record of which was not replaced in your office, and about which you know nothing at all after you reopened the office, was there any record at all in that office showing any restoration of this withdrawal of 1856?—A. I do not know that there was.

Mr. Payson asked Mr. Redington whether he claimed that the subsequent destruction of the paper prevented it becoming operative.

Mr. Redington replied in the affirmative, and said that that was a well established principle. These lands, he said, were all put into market on a particular day, after public notice, on the theory that everybody had the like equal notice. So that, if anything occurred between the receipt of the order and its publication to prevent the office being open to everybody on the day named, the whole thing fell to the ground on the theory that the general public did not have notice.

Mr. PAYSON. Suppose there had been a notice of restoration of this canal land withdrawal prepared in the Interior Department and transmitted to the local land office at Marquette, and received there in due course of business, would the subsequent destruction of that paper render it inoperative?

Mr. REDINGTON. Certainly.

Mr. PAYSON. It seems strange that the destruction of an official paper would make it inoperative.

Mr. DAVIS. We challenge the gentleman to show any such decision. You have only to read the notice to see that the burning of the land office at Marquette had nothing to do with it.

Mr. REDINGTON. The specific terms of all such orders as this are that the land shall be restored (not are restored) on a certain day, and the decisions are all to the effect that if on that day the office is not open for the restoration according to the terms the restoration does not take place.

Mr. DAVIS. This notice was simply required to be published in the public newspapers.

Mr. REDINGTON (to the witness). Was there any way of your complying with the terms of that order on the 5th of June, 1868, or whatever the date was?

The WITNESS. No, sir.

Q. It was physically impossible for you to comply with the terms of that order?—A. Certainly.

Q. And they never were complied with, were they?—A. There were no lands sold after the office was burned up until August, 1868.

Q. I come back now to the question to which I want an answer. It is this: why it was that with respect to the limits of this one railroad grant you applied a rule different from that which you applied to the Marquette, Houghton and Ontonagon Railroad grant, to the canal grant, and to the Indian reservation. What reason had you for doing it?—A. Because I had a diagram showing the withdrawal of the lands. It was sent to me, when the office was reopened, with the other records. There was no diagram sent with the Brulé River list.

Q. The tract book showed, did it not?—A. I suppose so.

Q. And the plats showed it?—A. Yes.

Q. And the correspondence of 1871 relative to the release showed it?—A. Yes. That showed it for some of them.

Q. Then you had all of those records there showing the reservation?—A. But the correspondence of 1871 did not show the quantity of lands or anything about it.

Q. Did you not have on your files a diagram showing all the clear lands lying between Ontonagon and the common limits?—A. Yes.

Q. Then you had evidence from the tract books, the plats, and from that correspondence, showing the reservation there for this railroad grant, and there was nothing of record in your office showing anything else. Is not that so?—A. Yes; the diagram was there

Q. Did not the plat book show the same thing?—A. The plat book showed the lands. I do not understand what you are trying to get at.

Q. I want to know if the plats, the tract books, and this correspondence of 1871 relating to the release, did all show a reservation for this railroad company?—A. Of course they did. I thought I had answered that question several times.

Q. Do you now answer it?—A. Yes; there was a railroad reservation there, of course.

Q. And there was nothing of record in your office showing that that land had been restored to market, was there?—A. No, sir.

Q. Then at the receipt of this list of 1873 you considered those lands shown to be reserved and not shown to be restored as in market, except as they were included in this list, did you?—A. Excepting those not included in this list, I considered they were in the market.

Q. Excepting those not included in that list of 1873 you construed and held them to be in the market?—A. Yes.

Q. Even though they were shown to be within the withdrawal for

the Ontonagon and State Line Railroad, as shown by your records?—A. Yes.

Q. This letter of 1873 purports to be an order directing the restoration of certain lands named in it to market?—A. Yes.

Q. Attached to the letter is a list; the terms of the letter are that you shall restore the lands included in that list to market on a certain day; is that so?—A. Yes.

Q. Is there anything in that letter that goes farther than to say that those lands shall be, on a certain day, restored to market?—A. There is not.

Q. Was there not a large body of lands outside of this list and included in the original withdrawal of the Ontonagon and State Line Railroad?—A. I know that there was a quantity of land, but I do not know how many acres.

Q. Then this letter and the accompanying list and the construction that you gave to it were the only authority by which you disposed of the lands included on the original reservation after 1873; is that so?—A. Yes, that is so.

Q. This letter contains the following; it is found on page 124 of the Railroad History:

> It appears from your returns that you have already allowed a number of entries of these lands without authority from this office. These will be submitted to board established for equitable adjudication, but you will not permit any further entries until the date of restoration, or recognize any pre-emption claims initiated prior to that time.

Did you in the subsequent administration of your office follow that instruction?—A. I tried to as nearly as I could, and I thought I did.

Q. Did you, as a matter of fact?—A. Of course I did. Of course I will not say positively, for the handling of lands is a very difficult matter. But I do not think I allowed a cash entry on that list. I think that there were one or two homestead entries allowed.

Q. Do you not know, as a matter of fact, that you did dispose of large bodies of the lands mentioned in this list to private purchasers after the receipt of this order?—A. I do not think that that is a fact.

Q. Prior to the receipt of this order you had nothing to guide you except the records in your office?—A. No, sir.

Q. How many acres of land did you dispose of within the limits of the Ontonagon and State Line grant prior to the receipt of this order?—A. I cannot answer that question. I never did know; I never figured it up.

Q. Have you any idea of the quantity?—A. No, I have not.

Q. Have you any idea of the number of persons to whom you sold land?—A. No; only from a duplicate list that I have seen, and which, I guess, was prepared here.

Q. Did you sell as much as 10,000 acres?—A. I do not know; I cannot answer.

Q. You do not know how many acres you sold nor to whom you sold?—A. I cannot tell all to whom I sold. I have seen it published in this history.

Q. Do you know how many tracts of land you sold that were included in this list after its receipt?—A. I do not; I do not think I sold any. That would be my judgment; because I endeavored not to sell any land which I thought was not for sale. I think that anything that is found on that list was entered prior to my getting the order.

Q. I want to call your attention to one entry. On the 7th of June, 1873, did you not sell to Jesse Spaulding the south half of the south-

east quarter of 29, 45, 35, included in that list?—A. I cannot say. I may have done so. Of course, as I said before, I may have inadvertently done so, but I did not intend to, and I thought I had not.

Q. We are talking all this while, I suppose, about the odd sections?—A. I did not know; you were talking about limits.

Q. Did you consider even sections to be within the limits of a railroad grant, and is all your testimony to be taken as applying to even sections as well as to odd sections?—A. I did not understand anything about it; I did not understand what you meant.

Q. In regard to the even sections within the limits of this railroad grant, by virtue of what authority did you sell them?—A. I cannot say that I had any authority. I supposed that they were in market, and I noticed before I took the office that my predecessor had allowed entries there, and the lands were patented, and that led me to believe that they were in the market. I had not anything in my office that would tell me positively that there was an acre of land in the district in market, if you come to a very nice point.

Q. You say that your predecessor in office allowed the entry of even sections; do you know how many of these entries he allowed?—A. I do not.

Q. Do you know any person who made any such entry?—A. I know a man named Culbertson who did.

Q. Is it not a fact that W. C. Culbertson was the only man who, before you went into the office, had ever entered an acre of land on an even section within the limits?—A. I suppose so.

Q. Do you know how much he paid for it?—A. I do not.

Q. Do you know whether he entered those lands?—A. I do not.

Q. Can you tell the circumstances?—A. No.

Q. Do you know whether those lands were patented before you went into the office?—A. It was after the fire. He was talking about the even sections, and was telling me about his locating on even sections and getting patents.

Q. And you cannot tell anybody else who had located on an even section?—A. No; and he located before I had anything to do with the office.

Q. Do you know anything about the restoration of those lands to market at $2.50 an acre?—A. Nothing but what I have heard.

Q. You do not know whether those lands were entered at the time they were in the market at $2.50 an acre?—A. I do not know anything about it.

Q. This restoration of 1873, did it ever go into operation?—A. It did not.

Q. What stopped it?—A. The Commissioner telegraphed me to withhold restoration.

Q. And the restoration was withheld?—A. It was withheld.

Q. And the lands never went back into the market?—A. No, sir.

Mr. PAYSON. You are speaking of the lands in the list of 1873?

The WITNESS. Yes, sir.

By Mr. REDINGTON:

Q. If any lands included in that list were disposed of at private entry, they were so allowed against instructions contained in that letter?—A. Most certainly, if there were any. I never intended to let any go.

Q. At a particular time you seem to have had a doubt about the propriety of your allowing entries of those lands, and that doubt appears to have arisen about 1872 and 1873?—A. Yes.

Q. Why was it that, at that particular time, you had a doubt, when you had none before?—A. I stated that once before. I got th the matter over, and it seemed to me that, as far as the la ds which were in the 1870 relinquishment were concerned, they could not have been restored; and that was my idea in writing the letter.

Mr. PAYSON. You mean the relinquishment by the authority of the State of Michigan?—A. Yes; I mean the relinquishment of the clear lands which I drew the deeds for.

By Mr. REDINGTON:

Q. Is it not a fact that, prior to the time when you wrote this letter, and prior to the time when you received this answer, as you stated, the entries in your district had been made by eight or ten or a dozen men, corporations and firms, in large amounts; and is it not true that after you got this letter such entries as were allowed were in the names of different individuals and in small amounts?—A. Not all the lands embraced in this list.

Q. I mean other lands.—A. Yes; outside of this list.

Q. Had the fact that a large body of these lands—choice lands—had been already entered by these corporations and firms up to 1873 anything to do with the fact that you suddenly discovered in your own mind a doubt as to these lands being subject to sale; was the doubt suggested by the fact that you had already disposed of a large body of the land to a few corporations and firms?—A. I do not think that anybody, even the Department, ever suspected for a moment that there was anything out of the way in it, or that I was committing an error in allowing these entries, until I drew attention to the fact myself.

Q. Did the fact that the great mass of these lands had already been disposed of by you to these particular individuals operate at all in your mind when you called for this list?—A. When the individuals were making the entries I did not think anything about it. It never occurred to me. When I got thinking the matter over I concluded that I might be allowing entries which should not be allowed.

Q. You made up your mind to that effect after some entries had been allowed?—A. Yes; I do not know how many.

Q. The magnitude of the entries had nothing to do with the suggestion that you had no authority to make them?—A. I do not suppose that, so far as the territory which that list covers is concerned, there was a very large amount of entries.

Q. Before you sent for that list, you did not know what territory was reserved?—A. No. If any one came to make entries, I would have allowed them to make them anywhere.

Q. The fact that a large body of these lands, say three-fourths of the valuable lands, had already been entered by a few corporations and firms prior to the receipt of this order, had nothing to do with your suggestion to the Department, that you had better have instructions?—A. I think it had, probably—of course, I do not know how; but I thought about it then, and the more I thought about the thing, the more I thought that I was probably on forbidden ground. Otherwise I should never have written the letter.

Q. Then you have no recollection of a large body of the land being disposed of prior to that time?—A. My impression is that there had not been a very large amount of it disposed of up to that time. I have seen a tabulated statement of the number of entries, and in no one year during my administration was there any large number of entries.

Q. These applications to enter lands were, in large part if not en-

tirely, filled out in your handwriting?—A. Yes; I have no doubt of that.

Q. What do you say about that?—A. It has been the common practice in the office. I think that, if any member of this committee would go to the office to-day to make an application for land, he would ask the register to fill out his application for him.

Q. That was the practice when you were there?—A. Yes.

Q. And, consequently, all these applications are found to be in your handwriting?—A. Yes; and I think you will find that that is the practice to-day.

Q. Is it not customary to make these selections and applications by furnishing a memorandum or minute of the tract?—A. What selections have you reference to?

Mr. REDINGTON. I mean anybody who comes into the office to make an entry of land.

The WITNESS. Yes. A large proportion of the business (I should say, probably nine-tenths of it) is done by mail, the party simply putting the description of the land in a letter.

Q. Is not a large proportion of the business of that office through local attorneys and agents?—A. I do not think it is. Since I went out of the office I think that Mr. Matthews has done a good deal of the business there.

Q. Had you ever in your office a deposit of any money or scrip of any kind, from any person, with the understanding that you should apply that money or that scrip to the location of valuable lands?—A. No, sir; I never had. It would have been an insult to the office for any man to make such a proposition.

Q. Were you an officer of the Citizens' Bank of Marquette at the time you were register?—A. I was.

Q. Who were the other officers of the bank at that time?—A. Part of the time Mr. Henry D. Smith was cashier.

Q. Had he any connection with the land office at Marquette?—A. No, sir.

Q. Was there any other officer in the bank?—A. After Henry D. Smith went out Mr. Wilkinson was cashier.

Q. What connection had Mr. Wilkinson with the land office?—A. I think I am mistaken about that; it was Mr. Fred. Steel who was cashier.

Q. What connection had Wilkinson with the bank?—A. He had some stock in it, and his office was at the end of the bank.

Mr. PAYSON. He was not an officer of the bank, was he?

The WITNESS. He was a director.

By Mr. REDINGTON:

Q. Mr. Wilkinson, the receiver of the land office at Marquette, was a director of this bank, and you were its president?—A. Yes.

Q. And Mr. Wilkinson was receiver, and you were register of the land office?—A. Yes, sir.

Q. Was there any deposit of money, or of scrip, such as I have referred to, made in that bank for that purpose?—A. Not that I know of. If there was, I do not know anything about it.

Q. Did any individual who was speculating in those lands have any deposit in that bank subject to your order?—A. No, sir.

Q. Or subject to the order of Mr. Wilkinson?—A. I wish to say right here that the register has nothing to do with the money received in the land office. The receiver is the man who has to do with the money.

An applicant for land may go to a receiver and deposit his money, and if another man goes to the register and makes application for the same land, he will get the land, although the money has been deposited by the other man with the receiver.

Q. My question was, whether anybody who was speculating in public lands there had a deposit in that bank subject to your order?—A. No, sir.

Q. Or subject to the order of Mr. Wilkinson?—A. Not that I know of.

Q. Or subject to the order of anybody in the land office?—A. Not that I know of. People have very frequently sent me minutes and wanted me to locate lands, and to draw a draft upon them, and I have done that thing for their accommodation.

Q. What persons did you do that thing for?—A. For the Ford River Lumber Company.

Q. For anybody else?—A. For individuals whom I knew to be good.

Q. What individuals?—A. For H. H. Porter, for example.

Q. For anybody else?—A. I presume for quite a good many. It was not an uncommon practice to do that, instead of the parties sending the money by express. They knew that the office was aware that they were perfectly good, and they would send minutes and ask us to locate the lands, and draw upon them for the money.

Q. Have you named all the persons for whom you did business in that way?—A. No; I cannot name all the persons; I cannot recollect them all.

Q. Did Mr. Jesse Spaulding, of Chicago, have a deposit in that bank at that time?—A. Not that I know of.

Q. Did Mr. Whitbeck?—A. Not that I know of.

Q. Are there any lands in the Marquette district standing in your name, or in the name of your wife?—A. Yes; 80 acres.

Q. In the name of your wife?—A. In the name of my wife.

Q. Can you describe it?—A. It is section, 1, 42, 35.

Q. The west half of the northwest quarter?—A. I think so.

Q. Does it contain iron?—A. Not that I know of.

Q. Is it in the vicinity of iron mines?—A. Yes, sir.

Q. When did you make that entry?—A. In 1879.

Q. Do you remember at what date?—A. I can give you the exact date, for I have got the certificate in my pocket.

Q. Was it on September 10, 1879?—A. I presume so; it is likely.

Q. State the circumstances under which you came to make that entry?—A. I went into the office one day and found there a man named Richard L. Selden. While we were standing there talking, he referred to this section 1. I think it was almost all vacant. It was subject to entry, as we then supposed, or he made a remark and asked whether it was subject to entry. I think I picked up on the register's desk this list of 1873, which had always been lying there as a guide, and I saw that this section was not on it, and I said, "Of course that is subject to entry." He said, "That is good land; and if you want to make an entry in there, I think you will get something that is pretty good." I said, "What do you know of it?" He said, "I never have been there much; but it lies in a good neighborhood, and I think it is worth taking." I thought about it, and I did not think I would take it. I had no idea at that time that there was any great value in the lands there. I thought about it for two or three days. I had an 80-acre warrant on hand, and I made up my mind that I would take 80 acres in that section in my wife's name for good luck. That is precisely the way I did it. I talked

with nobody about it. I went and got blanks and made the application, and laid it before the register.

Q. Who was present at the time you made that entry?—A. I cannot tell you.

Q. Was there anybody present besides yourself and the register and his clerk?—A. I cannot tell that. I simply went in and laid my application down.

Q. You made the location yourself in person?—A. Yes.

Q. Nobody did it for you?—A. No, sir; I did it myself.

Q. Who was the register?—A. Mr. Stafford.

Mr. PAYSON. This was after the expiration of your term of office?

The WITNESS. Oh, yes.

By Mr. REDINGTON:

Q. You made the entry in person?—A. Yes.

Q. Had Mr. Longyear anything to do with it?—A. Not a thing. I do not think he ever knew about my having a thought of buying it.

Q. Are you positive about that?—A. I am quite positive.

Q. Is there anybody else claiming that land now?—A. I understand that some homesteaders or pre-emptors are on the top of it, claiming that none of those lands were entered legally, and they want to get the entries canceled, and take the land themselves.

Q. Do you know who they are?—A. I do not.

Q. Is John McCauley a pre-emptor claimant?—A. I do not know. I have been informed that there are two different claimants on top of it, one of them a homesteader or pre-emptor, and another one with scrip. Not only that tract, but all the rest of the land over there, I understand, is in the same condition.

Q. Mr. John McCauley is said to be a pre-emption claimant for that tract of land. Have you ever been advised of that fact?—A. The officers there may have told me so.

Q. Have you ever been advised that somebody else attempted to pre-empt it, and to settle it after McCauley?—A. I never followed the thing up. If I did, I would never get to the end of it.

Q. Do you know what the land is worth now?—A. I do not know anything about it. Some people think it is worth something, and others think it is not. I suppose they think that when I, being an old register, located it, I ought to know where every silver mine and gold mine and iron-ore mine is.

Q. Is anybody now on that land in your interest under pre-emption claim?—A. Not that I know of.

Q. Was there anybody to your knowledge applying for that land or desiring to take it at the time you made the entry of it?—A. There was not.

Q. Are you certain about that?—A. Yes; I am certain. I did not look upon the land as of much value, and if anybody else wanted it I think he could have had it.

Q. In 1878, before your retirement from office, you allowed a homestead entry to one Richard L. Selden, did you not?—A. Yes.

Q. On land situated in 35, 43, 35?—A. Yes, sir.

Q. I wish you would state whether, at the time you allowed that entry, there was pending in your office any application for that land adverse to Selden's application; and, if so, under what circumstances you allowed the entry of Selden?—A. If you allow me, I will go on and tell the circumstances, which will illustrate it better than anything else. I think that that entry was made in the year 1873. I did not have myself a

good deal to do with the land office that year, although I was register. I had not very good health, and had been away from home on account of my health. Mr. Selden came into the office one day, and got to talking over the status of the lands embraced in this list, and he wanted to make an entry. I told him that the lands were not subject to entry; that they could not be entered for cash, nor by land warrants. He either asked, or there was something said upon the question, as to whether they could be entered under the homestead law, and I gave it as my opinion that they could be, as the homestead act provided that a man may locate any land belonging to the Government, whether in market or out of market, whether surveyed or unsurveyed. I supposed that those lands were Government lands, as they had been relinquished, and I said that if that was the fact, they could be taken under the homestead law. I did not think at the time that he was going to take a homestead. But we talked about it, and about the status of the thing. Mr. Matthews was there running the office virtually, and he can tell more about it than I can, probably. Selden finally decided to take a homestead, and gave a description of the land he wanted. I went to dinner, after asking Mr. Matthews to make out the homestead papers—the application and affidavit—and said that when I came back I would swear Selden to the affidavit, as the law required. When we came back from dinner, Mr. Selden came in very soon afterwards, and Mr. Matthews said to me, "There has been an application for a tract of these lands." I asked by whom, and he said, "By Dr. Sears." I asked him where the application was. He said something about his transmitting it to the Department, or something—I cannot recollect just what the wording was. I said to him, "Here is an application, which has been made by the man in person, and I cannot reject it." And I could not, and I entered it up. Those are the circumstances.

Q. You had just returned to Marquette from a distance?—A. Yes.

Q. Where had you been?—A. I think at Chicago.

Q. And on your return you met Mr. Selden?—A. I met him in the office.

Q. On your return from that trip, did not Mr. Matthews say to you that, during your absence, he had received an application from Dr. Sears to enter that land with a soldier's additional warrant; and that, not knowing how to handle that class of paper, he had written to Washington for instructions?—A. That is what he said after Mr. Selden's application was made.

Q. Did he not say it to you when you returned from Chicago, and before you saw Mr. Selden?—A. I think not. I have no recollection of it if he did.

Q. Is it not a fact that the Selden homestead entry was allowed by you with a knowledge on your part of the fact that such an application had been made by Dr. Sears, and was awaiting instructions from Washington?—A. Not until after the papers were made out.

Q. Were not the papers made out after such a communication from Matthews to you?—A. I had not heard anything about it until I came back from dinner after the Selden papers were made out.

Q. Then you allowed the Selden entry in utter ignorance of the fact that Dr. Sears had made such an application, and Matthews never told you of it until you had seen Selden?—A. He told me just as I have stated the matter—not until after Selden had left his minutes.

Q. Was that land known at the time to be valuable mineral land?—A. I do not know whether it was or not. I did not know anything about

it. At that time I did not regard any land in that country as being worth much.

Q. Did Selden tell you that it was good mineral land?—A. I do not think he did.

Q. Was not the disposition of that land the subject of considerable dispute between you and Matthews?—A. I never heard of it if it was.

Q. Did not Matthews claim that Dr. Sears's application should be allowed in preference to that of Mr. Selden?—A. I think very likely he did; but he did not say much to me about it that I recollect. If he did I certainly have no recollection of it.

Q. That was an original homestead, was it not?—A. Yes.

Q. After a while Mr. Selden was obliged to give it up, was he not?—A. Yes.

Q. Was it not a fact that E. J. Mapes, an attorney at Marquette, had taken initiatory steps to contest Selden's final proof, and that you went to him and dissuaded him from doing it?—A. Most certainly not.

Q. That is not true?—A. No, sir; that is not true. I do not know that any such steps were taken, and I know that I never went to Mr. Mapes about it.

Q. You have recently issued a circular?—A. Yes.

Q. Addressed to the chairman of the full Committee on Public Lands?—A. Yes.

Q. In which you make a statement as to the administration of your office?—A. Yes.

Q. And in which you say, with reference to homestead settlers, that there are no bona fide settlers on those lands, and that the appeals made to the Department and to Congress in their behalf are not made in good faith for pre-emption and homestead settlers. Tell me whether the issuance of that circular with that statement in it had anything to do with the fact that your claim standing in the name of Mary L. Campbell was contested by a pre-emption claimant?—A. Not a particle.

Q. The fact that you were claiming a tract of land which was also claimed by a pre-emptor, or a homestead claimant, had nothing to do with that statement of yours?—A. Nothing at all.

Q. Your statement was not intended to influence the judgment of the committee, or of Congress, for that reason?—A. No, sir.

Q. What other reason had you for making it?—A. I simply gave just the facts. I spoke of my administration of the office.

Q. You have not been down in the Iron River country, have you?—A. No; I have not been.

Q. You do not know of your own personal knowledge whether there are any pre-emptors living there in good faith or not?—A. Only from what I heard.

Q. Then, without having any interest in protecting your property, or anything of that kind, you issue a general circular stating that there are no bona fide homestead settlers down there, without your ever being in that country?—A. I do not say anything about it. I say that during my term of incumbency of the office there were no homestead entries made.

Q. You say in this circular:

> While posing as settlers they have simply deceived your honorable committee, and are endeavoring to use you to aid them in securing lands which, years before, were sold to other parties, by appealing to that sentiment which attaches to bona fide settlers, and which is altogether misplaced.

You said that?—A. I said that in connection with what was said here, and was embodied in the report of the committee, that a large number

of homestead settlements were made under my administration there, and that I had deprived homestead settlers of their entries by permitting cash entries on the top of them.

Q. You do state here just what I have read?—A. Yes.

Q. And you intended to apply it to homestead settlers now residing on those lands?—A. I intended to apply that to what had been stated about them.

Q. In other words, you intended to say that these pre-emption settlers were not there in good faith?—A. I think nobody could help saying that.

Q. That is what you intended to say?—A. Yes; and what I did say.

Q. What information did you have on which to base that statement, if you were not in that country, and did not know who were locating on the lands, and who were not?—A. Only from what they told me.

Q. From what who told you?—A. From hearsay.

Q. Hearsay from whom?—A. From the register up there, and from other people.

Q. What did the register say?—A. That they were making applications.

Q. Do you know anything about whether they are living on the lands or not?—A. No; but I know a good deal about the character of homesteaders in that country.

Q. Do you know anything about the claimants whose claims are now pending in the Interior Department, and who are living on these lands?—A. No; I know nothing about them.

Q. Do you know anything about whether they are improving and cultivating the lands?—A. I do not know.

Q. You do not know whether the Interior Department has decided that the lands are subject to homestead entry?—A. I do not.

Q. And yet you insert a statement of that kind in a circular without any idea of thinking of your own interest?—A. Of course I was thinking of my own interest as well as of anybody else's interest.

Q. And you inserted that in that pamphlet without a knowledge of the facts connected with the applications, or the settlements or residences of these men, did you?—A. Yes.

Q. What inducement and object had you for doing that?—A. I do not think that, even if the entries were made, without the land being properly restored to market, it is honorable for any community to try to get the lands away from those who entered them honestly and paid their money for them.

Q. You held that these lands would be subject to homestead entry?—A. Yes, sir; that under the homestead law they would be.

Q. And the Department has since so held?—A. I do not know what the Department has held.

Q. Why should you, having allowed homesteads there (without having any interest in the matter personally), incorporate such a thing as that into a statement to be circulated among members of Congress?—A. I did it because I thought it was about the fact.

Q. You did it because you desired to defeat these pre-emption and homestead claimants, did you?—A. Yes.

Q. And because you desired to have these cash entries and private entries confirmed?—A. I have always thought it an injustice that cash entry men should be deprived of their lands.

Q. What did you do it for? What did you intend by it?

Mr. McCarter objected to the line of inquiry, and the objection was sustained.

By Mr. REDINGTON:

Q. Who wrote this circular?—A. I did.

Q. Did you talk to anybody about it?—A. No, sir.

Q. To nobody at all?—A. Yes, I did; I talked with Mr. Burdette a little. I got some ideas from him.

Q. Mr. Burdette is an attorney for some cash entry men, is he not?—A. This circular was my own suggestion; and there were some things about which I wanted to consult him. I wanted him to get through him some dates, and I wanted him to get the printing done. I was a stranger here. But the original I wrote myself without consulting him, and without his knowing what was in it.

Q. Mr. Burdette is the attorney for John B. Ross, is he not—the owner of some of these entries?—A. I do not know.

Q. How did you come to go to Mr. Burdette?—A. I have been acquainted with him a good while.

Q. Did you talk to anybody else about it?—A. Not outside of Mr. Burdette's office.

Q. Who suggested the getting up of this circular?—A. I did myself. When I came here and found what had been said about me and my work, I thought it time that I should do something to vindicate my own reputation in that matter.

Q. And you undertook to vindicate your own reputation by pitching into pre-emption claimants whom you knew nothing about?—A. You may put any interpretation you want to upon it; I do not care.

Q. Were you ever called to Washington before in connection with this canal grant?—A. I do not know that I was, in connection with the canal grant. I was in connection with entry men.

Q. When was that?—A. I should say three years ago last winter, for the first time.

Q. Was there then a move similar to that now pending in this Congress, to secure a confirmation of the canal selections, and the selections of cash entry claimants?—A. I think there was.

Q. And you came to Washington in the interest of that combination?—A. I came here at the request of entry men, to tell the committee how entries were made.

Q. Before you came here and told the committee, did you have any negotiation with the Portage Lake and Lake Superior Canal Company, or with Mr. Davis, in relation to any money to be paid you?—A. None at all.

Q. Had you any claim against the canal company at that time?—A. The only claim that I had was an old claim against the old canal company for services for which I had paid money out. I had men come into my office and do work for the company.

Q. And that was not paid to you by the old canal company?—A. No, sir.

Q. Has it ever been paid to you?—A. I have never had a dollar from the canal company.

Q. Had you ever any money from Mr. Davis, in settlement of that claim?—A. Never a dollar.

Q. Had you any consultation with Mr. Davis about this matter before you came to Washington three years ago?—A. No; I do not think I had. Not to my knowledge. I may have told him that the old canal company owed me so much, and that he ought to pay it.

Q. Did you say that?—A. I do not know whether I did or not. I may have said so, and I may not have said so.

Q. Have you any recollection about it?—A. I have told Mr. Davis,

two or three times, that he ought to pay it. I may have told him this. I do not know whether I did or not.

Q. You came to Washington then?—A. Yes.

Q. And you made a statement before the Committee on Public Lands?—A. Yes, sir.

Q. It was an *ex parte* statement, was it? There was nobody opposed to you?—A. Yes; Mr. Rush was defending the Brulé River grant.

Q. Was there anybody representing the pre-emption settlers?—A. There was a lawyer from New York representing Mr. Selden.

Q. Aside from him, did anybody represent any pre-emption or homestead settlers?—A. I do not think so.

Q. You are positive that no settlement was made of your old claim against the canal company before you came on to testify in that case?—A. Yes; I am positive that no settlement of it was made.

Q. And you have not had any settlement of it yet?—A. Not yet.

Mr. DAVIS. Nor any promise of one either.

The WITNESS. Nor any promise of one.

By Mr. REDINGTON:

Q. You say that the canal company is indebted to you for some expenditure of money?—A. Yes; for work done by outside parties whom I hired to help me to do it.

Q. What kind of work?—A. Making lists. Mr. Avery, who was the State agent, would come there, and he could not make out a list. The preparing of these lists is quite an item. It is not every man who can do it.

Q. Mr. Avery could not do it?—A. He insisted that I would get somebody to do it. I also said that I could not go to work and do this kind of business; that it did not belong to me officially, and that I could not neglect the official business of my office to attend to that thing. He said to me, "If you hire somebody to help, we will pay him." I did so, and I paid for this help out of my own pocket, and I have not been repaid yet.

Q. What was the character of that work?—A. Preparing lists.

Q. Writing out lists of lands?—A. Making out those lists which the State agent should make.

Q. Making them out was copying them from lists?—A. Yes; copying them from lists.

Q. And you hired somebody to do it?—A. Yes.

Q. How much did you pay?—A. I had different parties employed.

Q. How much did you pay them?—A. I claim $1,000.

Q. Did you pay out $1,000?—A. I guess I did. I had a man on the first list for six weeks.

Q. How many lists in all were prepared in your office during your administration?—A. I do not know; quite a number.

Q. How many pages of foolscap do you suppose the work would cover?—A. It is a good deal of work to make out a list.

Q. Would not a bundle of this size [exhibiting a bundle of paper] cover every list that was ever made out in your office for the canal company?—A. I do not think it would. It might.

Q. Do you mean to say that for that work you paid out to employés in your office $1,000?—A. I think I did.

Q. How did you compute it?—A. It was their own proposition that if I would do this work they would give me $1,000 for it.

Q. That if you would do this work for them they would give you $1,000?—A. Yes.

Q. Thereupon you got somebody to do the work, and you paid the parties for what they did, and then you presented your claim for $1,000?—A. No; I never presented my claim. They simply agreed to pay, and they never paid.

Q. You thought they ought to pay?—A. I thought they ought to reimburse me what I had paid.

Q. Did you ever ask Mr. Avery to pay you?—A. I do not think I did.

Q. Did you ever ask anybody but Mr. Davis to pay you?—A. The old canal company got so that it could not pay anybody, and there was no use in applying to it.

Q. You have testified that you asked Mr. Davis to pay you?—A. I thought that Mr. Davis ought to pay it.

Q. And you think that you never asked Avery to pay it?—A. I do not think I ever did.

Q. Did you ever do any other work for the canal company for which they suggested they would pay you?—A. No, sir.

Q. Did you ever do any extra work of any kind for anybody else up there for pay?—A. No, sir.

Q. Did you ever do any work for the Marquette, Houghton and Ontonagon Company?—A. Yes; I made out their lists.

Q. Were you paid for that work?—A. I do not recollect whether they paid me or not.

Q. Did they not pay you $400 for extra work?—A. They may have done so; I cannot recollect about that. I made all their lists out. I got them up in nice shape, and I presume they paid me. I do not recollect the amount.

Q. Do you know whether the law allowed you, a United States officer, to receive compensation of that kind for extra work?—A. I do not know any law which prohibits a man, if he works outside and does not interrupt his office business, from taking money for that kind of work.

Q. There has been a circular referred to during the course of events here this winter, issued by an association of persons in your country levying an assessment of ten cents an acre on all purchasers of lands around in that vicinity, for the purposes of carrying on certain proceedings in Congress. A copy of that circular I have in my hand. Among the signers of that circular who are designated and called "the land owners elected at a meeting on the 10th inst.," I find the name of Ambrose Campbell. Are you the same man?—A. I suppose so.

Q. Do you not know?—A. I do not know positively. I have been told that my name was on it.

Q. Do you know anything about how your name got on that circular?—A. I do not. I only know that if my name is there it was put there without my knowledge or consent.

Q. Then somebody has, without your knowledge and consent, signed a circular of this kind, and circulated it, levying an assessment of ten cents an acre?—A. Those are the facts.

Q. When did you first discover the improper use of your name on this circular?—A. In the early part of the winter.

Q. What did you do about it?—A. I told them that they had no right to put my name there without my knowledge.

Q. Did you ever disavow the act of these various persons?—A. I never took any interest in the matter at all, or did anything to facilitate the collecting of assessments, or anything of the kind.

Q. You never took any trouble or pains to communicate with those various persons who had been deceived by the use of your name, that

such use was not authorized by you?—A. No; I do not think I did; but I told some of them in person.

Q. Had the canal company anything to do with the levying of this assessment?—A. Not that I know of.

Q. Did any of the parties who were assessed in this way come to you about it?—A. Some parties may have talked to me about it, but I do not recollect.

Q. Did anybody talk to you and ask you to arrange for the payment of this assessment, or anything of that kind?—A. No, sir.

Adjourned until to-morrow.

WASHINGTON, D. C., *April* 17, 1884.

AMBROSE CAMPBELL recalled.

By Mr. REDINGTON:

Question. In any disposition of lands made by you during your term of office as register of the land office at Marquette, was there any discrimination in favor of the canal company and against individuals?—Answer. There was not—none with me.

Q. Was there any such discrimination during your term of office?—Not that I was aware of.

Q. Do you recollect during your term of office a restoration of certain lands lying south of township 41?—A. I do.

Q Do you recollect the date of that restoration?—A. It was either in 1870 or 1871. My impression would be that it was in 1871; but it may have been 1870.

Q. Do you recollect the month or the day?—A. I cannot tell you the day; but I think that restoration took effect either in June or July.

Q. Was that restoration generally known as the June restoration, or the June sale?—A. Yes; I think it was the June restoration.

Q. Under what sort of an order was that restoration made?—A. An order issued by the Commissioner here from the General Land Office.

Q. What lands did it include?—A. It included the lands formerly withdrawn for the Lac La Belle Canal Company to select from.

Q. All of them?—A. The Commissioner seemed to think that it did include them all. I did not understand the notice to include them all, and I wrote to him to know what interpretation I should put on the notice. I drew his attention to the limits of the withdrawal formerly made for the Lac La Belle Company. In reply to my letter he sent me a colored diagram of the State of Michigan, and the language of his letter was in substance this:

> In reply to your letter, I herewith inclose a diagram of the State of Michigan. The lands colored yellow are to be the lands in the notice of restoration.

But these lands that were marked yellow on the diagram embraced more than the notice of restoration embraced; and, consequently, I went on to sell according to the colored diagram.

Q. On page 24 of the Canal History is a letter dated April 20, 1871, directed to the register and receiver of the land office at Marquette, and signed by the Commissioner of the General Land Office, transmitting "packages containing 400 printed notices, No. 752, of the restoration of certain lands to market in your district, on Monday, the 5th day of June, next." Is that the notice?—A. I presume that that was the notice.

Q. Then the notice No. 752 designated the lands to be restored?—A. Yes.

Q. Were not the lands designated by that notice to be restored lands lying north of township 41?—A. No, sir. The notice which I have referred to is in respect to lands south of 41.

Q. The first letter sent to you with reference to this sale, was it not limited to lands lying north of 41 (I am not referring now to the colored diagram, but to the first notice)?—A. The first notice included part of the lands in the colored diagram. The colored diagram did not go north of 41.

Q. What part of the colored diagram was included in the first notice?—A. I do not know that I can tell you without a diagram to show it.

Q. Did not the notice which was sent with that letter include all the lands lying north of 41 and west of range 15?—A. The way I understood the notice——

Mr. REDINGTON. Tell me what the notice contained.

Mr. Payson said that if this point was going to be material the best evidence of it was the record itself.

Mr. Davis said that he had the original notice, and was now trying to find it.

The WITNESS (after reading the letter). This does not say what the notice covers; but my recollection of it is that it was intended to cover the withdrawal for the Lac La Belle Company, and that withdrawal was all the lands south of 41. The Portage Lake Canal withdrawal was north of the line dividing 40 and 41; and the Lac La Belle withdrawal was south of the line dividing 40 and 41. That is the way my recollection serves me in the matter; but I may be mistaken.

By Mr. REDINGTON:

Q. That notice, No. 752, described in it the lands to be restored specifically, did it not?—A. I do not know whether it described towns and ranges; but it described the boundaries, if it did not the towns and ranges. At least there was a description in it which led me to conclude that it did not embrace all the lands formerly withdrawn for that company.

Q. Is it not a fact? Did it not include all the lands lying north of 41 and west of 15?—A. I did not so understannd it if it did.

Q. Did it include any lands lying south of 41?—A. My recollection is that it covered lands entirely south of 41.

Q. You had occasion to write to the Interior Department about it before the sale, did you?—A. Yes; I called attention to what I apprehended was an error in the notice covering all the lands.

Q. And the Department then sent you a colored diagram by which to sell the lands?—A. Yes; that is a fact.

Q. And you sold the lands according to that colored diagram?—A. Yes.

Q. That colored diagram included lands lying south of 41?—A. Yes.

Q. And you sold lands lying south of 41 in connection with other lands lying north of 41?—A. I suppose I did; I do not recollect particularly.

Q. That notice of restoration put the lands on the market on the 5th of June, 1871?—A. Yes.

Q. Prior to that time had any application been made to your office for information as to whether that restoration notice included lands south of 41?—A. Yes; I think there had been.

Q. Can you tell me some of the parties who applied?—A. There were a good many parties who applied.

Q. What did you tell individuals who so inquired?—A. The answer

was that I had written to the Department, and that when I got a reply from the Department I could tell; that I did not understand that the notice covered all the lands formerly covered by the Lac La Belle selections.

Q. Did you tell individuals in that connection that, in your judgment, the notice did not include lands lying south of 41?—A. I did.

Q. Then the first information you had from the Department that the notice did include lands lying south of 41 was the receipt of the diagram?—A. Yes, sir.

Q. And that diagram was sent—by letter of what date?—A. I cannot give the date of the letter; but it was I should say along about the first of June.

Q. On page 26 of the Canal History I find a letter dated May 26, 1871, addressed to the register and receiver, Marquette, Mich. It apparently covers the matter we are now talking about. Is that the letter which you received?—A. I should say it was.

Q. About what time would you, in the ordinary course of transmission of mail, have received that letter at Marquette?—A. I should say probably about the first of June.

Q. When you got that letter about the first of June, 1871, did you attempt to communicate with, or to notify, any of those individuals who had applied to you for information on this subject as to the receipt of the letter?—A. I think not. The time was so short before the restoration took effect that I did not communicate with any of them. That would be my recollection of it.

Mr. PAYSON. When did the restoration take place?

The WITNESS. On the 5th of June.

By Mr. REDINGTON:

Q. Do you know a gentleman named I. K. Hamilton?—A. Yes.

Q. Did he, prior to the receipt of this letter, apply to you and ask any information on that point?—A. I think it very likely that he did; but I cannot say positively.

Q. Have you any recollection on the subject?—A. I have not.

Q. Did you read such a letter as this to Mr. Hamilton?—A. I cannot say whether I did or not. My recollection would not warrant me in saying whether I did or not.

Q. Did you communicate any information on that subject to Mr. Spaulding?—A. I cannot say whether I did or not. Mr. Spaulding, and all these lumber men down there, were anxious to know about it, and they were making inquiries right along, as other parties were also.

Q. The land south of 41 lies along the mouth of the Menominee River, does it not?—A. Yes, sir.

Q. That is a valuable lumbering country, is it?—A. I suppose it is so considered.

Q. Give me the names of the principal lumbering firms there at that time.—A. Whitbeck & Co., Ludington & Co., Kirby Carpenter, the Menominee River Lumber Company, and perhaps some others.

Q. R. Stephens & Co.?—A. I do not know that there was any company by that name. Stephens's interest, I think, was in the Ludington Company and the Kirby-Carpenter Company.

Q. Was there a firm of the name of Hamilton, Merryman & Co.?—A. Yes; I think so.

Q. Do you recollect having had applications for information from all of those companies to know about those lands?—A. I presume I had; I presume they all made inquiries.

Q. How many of these men did you notify of the receipt of the letter with the colored diagram?—A. I cannot say that I notified any of them.

Q. Is it not a fact that you notified Whitbeck, Carney & Co., and Jesse Spaulding?—A. If I did, I have no recollection of it. It has all passed out of my recollection. It is possible I may have done it; but my recollection is that the time was so short that I could not do it, unless I did it by telegraph; and I did not want to notify one unless I could notify all. So I let all come in on an equal basis. That is my recollection about it. I may have written some of them letters; but I do not recollect.

Q. Do you recollect having a conversation in May, 1871, with I. K. Hamilton?—A. I may have had; I do not recollect it.

Q. Do you recollect having had a conversation with Spaulding about the matter?—A. I think they all talked with me about the restoration.

Q. When did you see Spaulding last before that sale?—A. I cannot say when I saw any of them last before the sale.

Q. Were you in Chicago just before the sale?—A. I do not recollect; I may have been. I do not think I was in Chicago after I got the colored diagram.

Q. Do you recollect that you were there before you got it?—A. I think I was. I was there very frequently.

Q. Have you any recollection of being there just immediately before the colored diagram was received?—A. I have not; yet I may have been.

Q. Where did you stop when you were in Chicago?—A. Mostly at the Grand Pacific.

Q. Did anybody go back to Marquette with you?—A. Not to my recollection.

Q. On your way back from Chicago to Marquette did you see Mr. Fred. Carney?—A. I do not know; I may have. I may have seen them all. I cannot bring to my mind whether I did or not.

Q. At the June sale, can you tell me what lands were sold to Spaulding and Whitbeck?—A. I cannot from memory.

Q. Or what lands were sold to other companies down there on the Menominee River?—A. No.

Q. Do you know anything about an Anthony list of canal lands?—A. Yes.

Q. Was a portion of the lands that were sold to Spaulding and Whitbeck in conflict with the canal selections made by this Anthony list?—A. Yes.

Q. That is to say, you allowed entries by Whitbeck and Spaulding south of 41 that were in conflict with lands previously selected by the canal company, through Anthony. Is that it?—A. I do not know that I get the idea of your question. The lands that I sold had not been selected by any canal company. They were in the limits of the withdrawal formerly for the Lac La Belle Company; but that company had completed its selection.

Q. Mr. Anthony had filed a list in your office, which you had allowed?—A. Not prior to the sale under this notice.

Q. When was that Anthony list filed?—A. It was filed, I should say, probably about September, 1871.

Q. After the sale to Whitbeck and Spaulding?—A. After the sale had been made; and the Commissioner canceled all the entries for various parties.

Q. After you allowed those entries of Spaulding and Whitbeck, the Commissioner canceled them, did he?—A. Yes.

Q. On what ground?—A. On the ground that his notice did not cover those lands.

Q. That the diagram did not cover them?—A. The Commissioner can answer that better than I can.

Q. And then Anthony came along and filed the canal list. Is that it?—A. Yes, sir.

Q. And then you allowed the canal list?—A. Yes.

Q. And then the list came on to Washington?—A. Yes.

Q. Were any patents received at your office on those Spaulding and Whitbeck entries?—A. There were.

Q. When?—A. I cannot tell when. It was sometime after the entries were canceled.

Q. You received patents for Spaulding and Whitbeck?—A. Yes; and I guess some for all the entries.

Q. Was that before or after the canal selection?—A. It was after the canal company had filed lists.

Q. What did you do with those patents?—A. I delivered them to the parties who made the entries.

Q. To Spaulding and Whitbeck?—A. Yes; and to all the rest of them who called for them.

Q. Did you deliver all the rest of the patents?—A. No; I did not deliver all of them; but I did deliver all that were called for.

Q. How soon after the receipt of those patents in your office did you deliver them to Spaulding and Whitbeck?—A. I cannot tell you.

Q. With reference to those patents which you did not deliver to the parties, what, if anything, did you do with them?—A. As my recollection serves me, the Commissioner found out, after a time, that the patents had been delivered, and he telegraphed me to return all patents transmitted to my office under date of a certain letter. I went to work and made up a package of the patents which had been sent. There was a large amount of them, perhaps one or two hundred, in various localities, for lands located in the district. And I stated to him in my letter returning the package that I inclosed all the patents transmitted in his letter of such a date, except patents numbered so and so, which had been delivered on the surrender of the certificates to me. That is the substance of my letter.

Q. Into whose manual possession did you put the Spaulding and Whitbeck patents?—A. That I cannot tell.

Q. Who gave you the duplicate receipt for them on their surrender?—A. I cannot tell. My impression would be that they sent their receipts by mail, and that the patents were returned to them by express. That would be my impression about it, but I cannot speak positively.

Q. You do not know about that?—A. Not positively.

Q. Did you notify any of those parties that their patents were in your office for them?—A. I did not notify any parties especially that their patents were there; but, if any parties made inquiry about having patents there, I notified them.

Q. Did you notify Spaulding and Whitbeck that their patents were in your office?—A. I cannot say. The parties who enter lands are always inquiring whether their patents have come.

Q. I ask you whether you notified Whitbeck and Spaulding that their patents were there?—A. Not to my recollection. I may have done so, and I may not.

Q. If they were sent to them by express, on duplicate receipts being sent to your office, would you then say that you had previously notified them that the patents were there?—A. No. It is a very common trans-

action to send patents to parties by express, when they send on their certificates.

Q. How do parties know when patents are issued to them? Do you advise them of it, as register?—A. Not always. Parties frequently sent their certificates first.

Q. Was it not the practice of your office to notify persons when their patents were ready for delivery?—A. I cannot say that it was.

Q. You cannot say whether you gave a notice of that kind to Spaulding and Whitbeck, that their patents were there?—A. I cannot say whether I did or not. Such transactions are occurring every day in the land office.

Q. Did you deliver some patents to Mr. Ludington?—A. I cannot say; I presume I did.

Q. Is it not a fact that of all those patents that were sent out, you delivered only those to Spaulding and Whitbeck, and sent back all the rest?—A. The records will show what patents were delivered, and what not.

Q. I ask you if that is not a fact?—A. I cannot say from memory whether it is or not.

Q. You do not know?—A. No; I do not recollect.

Q. At any future times during your term of office was any notice given to you from the General Land Office in reference to the Spaulding and Whitbeck entries—after the delivery of the patents, and to notify them to return the patents?—A. I was instructed to apply to them for a return of the patents.

Q. After that, what further notification did you get from the General Land Office about it?—A. I do not know that I got any, except to notify them to return the patents so that the patents might be canceled.

Q. Did you get notice of any further action by the Department, in 1875, in reference to that matter?—A. I do not recollect; I may have.

Q. When you were going from Chicago to Marquette, just before the June sale, state whether, at a certain point, you did not meet and communicate with Mr. Fred. Carney?—A. I may have; I cannot say; I have no recollection of it.

Q. Was Mr. Carney a member of the firm of Whitbeck & Co.?—A. I do not know whether he was a member of the firm or connected as their agent. He was either one or the other.

Q. He had some connection with the firm?—A. He had some connection with it.

Q. You neither admit nor deny that you met Mr. Carney on your return from Chicago?—A. No; I have no recollection about the matter, it is so long ago.

Q. Who made the application for the Spaulding and Whitbeck entries at your office on the 5th of June? I want to know whether it was done by Mr. Spaulding or Mr. Whitbeck, or by whom.—A. I cannot tell you. My impression is that it was not Mr. Spaulding; but it was somebody from Menominée who represented him.

Q. You do not know who it was?—A. No; I cannot tell you.

Q. I ask you if you know?—A. I do not recollect. But I will say this, with permission, that it seems to me that these entries were made by a man named Bird, of Menominee, but I have only a faint recollection about it. It seems to me that Bird was some sort of agent of Spaulding's; but that is simply a faint recollection, almost like a dream.

Q. Who was your predecessor in office?—A. J. W. Edwards.

Q. And you succeeded him?—A. Yes.

Q. At the time when you took charge of that office were there any

lands marked up on the tract books, or on the plat books, in the name or initials of John F. Driggs?—A. I can only say that I heard there was such a list in the office. I do not think I saw the list.

Q. I have not asked you anything about the list at all. I want to know whether, at the time you took possession of that office, there was not marked up on the plat books in your office a large amount of lands in the name of John F. Driggs or J. F. Driggs?—A. I cannot answer positively; but, if I were going to answer from recollection, I would say that there was not.

Q. I want you to answer that question and tell me whether that is a fact which you know within your personal knowledge?—A. I cannot answer it; only my recollection is that they were not marked on the plats; but I would not say positively. Still, that is my recollection. I do know that it was said that there was a list for Driggs in the office, but it burned up before I got round to it.

Q. Who said so?—A. I cannot say who told me, but it seems to me (if I were going to speak from memory) that the old register told me that there was such a list in the office.

Q. But you have no recollection whether it was marked on the plat book?—A. No, sir.

Q. Did you ever tell anybody that it was?—A. I do not know that I ever did. I may have told somebody. I cannot recollect that I did.

Q. Did you not, after you came into the office (with reference to the land that had been so marked), erase, or cause to be erased, the initials of J. F. D., and put therefor, in blue pencil, the mark C, indicating the lands selected by the canal company?—A. If I did so, I did so on account of the canal company filing a list.

Question repeated.—A. I can only answer to the best of my recollection. I have no recollection of rubbing out anything and putting a C in its place for the canal company. If the canal company filed a list including these lands, of course, I marked them up to the canal company, or they marked them up themselves.

Q. Have you got any recollection at all about it?—A. I do not recollect anything more about it than I have repeated.

Q. You have not repeated anything. I want to know if you recollect anything about it. I do not want to know what you would have done under any hypothetical condition of affairs. I want to know what your recollection is about whether you did it.—A. I do not know that I can repeat any more.

Q. Do you recollect anything about it?—A. I do not recollect anything about lands for Driggs.

Q. Do you recollect anything about any such transaction as I am now interrogating you upon?

The WITNESS. As to rubbing out?

Mr. REDINGTON. You know perfectly well what we are talking about.

The WITNESS. I have answered the question to the best of my recollection.

Q. Have you any recollection at all of erasing, or causing to be erased, from the plat book in your office, the initials J. F. D., and inserting in their place the initial C?—A. I have no recollection of that kind.

Q. Have you any recollection of any such thing?—A. Of course not.

Q. Do you mean to say that you did not do that?—A. I do not know that I can say more than I have said.

Q. You can answer that question. Do you mean to say that you did not do it?—A. Erase anything? No; I am not going to say that, be-

cause I do not know but I may have rubbed something out. I do not pretend to say that. Take the plat books in a land office, and they very frequently have marks upon them which are afterwards rubbed off; that is, marks which we do not know anything about.

Mr. PAYSON. Mr. Redington's question assumes that there were certain initials on the plat book in your office indicating that somebody had asserted a right to certain lands, and that you erased the initials and inserted instead of them C, indicating that they were for the canal company, so as to give the canal company the claim to the land which somebody else had theretofore asserted a claim to. You ought to recollect whether that was the case or not.

The WITNESS. There may have been, in a few instances, something of that kind.

Mr. PAYSON. Do you recollect that you ever did it?

The WITNESS. No; I do not recollect that I ever did.

By Mr. REDINGTON:

Q. Is it not a fact that that was done by you in your office at the request and instigation of Mr. Avery and Driggs, and that you understood all about it?—A. No; I do not know anything about that.

Q. That is not so, is it?—A. No, sir.

Q. Do you know a man named Thomas L. Runnells?—A. If he is the Runnells in our country I know him, but I do not know what his initials are.

Q. Did you not, in Marquette, shortly after your accession to the office in 1868, have a conversation with Thomas L. Runnells, in which you told him that when you came into the office a certain portion of the public lands were marked with the name of John F. Driggs, and that you erased, or caused to be erased, the initials J. F. D., and inserted in lieu thereof the initial letter C? Did you not have such a conversation at that time and place with Thomas L. Runnells?—A. Not to my recollection.

Q. Do you say that you had not?—A. Not to my recollection.

Q. Was it your practice in the land office, when selections or applications for selections were made by the canal company, to mark off on plat books in the office the tract, designating them by the letter C, in blue pencil?—A. I think they did it mostly themselves.

Q. That was the practice in the office, was it?—A. Yes.

Q. That was the way that the lands of the canal company were designated?—A. Yes.

Q. By a C?—A. By a C; and sometimes by a P, I think. I do not know whether they had another letter.

Q. Was it the custom to use a blue pencil to mark the C?—A. Sometimes a blue pencil, and sometimes a red one, and I do not know but somebody used sometimes a common black pencil.

Q. During your term of office there, was there, with respect to any lands entered or selected by the canal company, any additional marks of any kind (additional to C or P) put upon the lands selected by the canal company, and, if so, for what purpose?—A. I do not know that there was any.

Q. Had a simple check like this [showing a small cross] marked at the root of the C any particular significance?—A. No; not that I know of.

Q. If you ever saw such a mark in addition to the letters C or P, it conveyed no particular significance to your mind, did it?—A. No, sir; not that I have any recollection of.

Q. It was there for no purpose?—A. No, sir; not that I have any recollection of.

Q. During the year 1872, was any application made to your office to enter any lands by Mr. John L. Buell?—A. I suppose there was. Mr. Buell was entering lands there.

Q. Do you recollect anything about it?—A. I recollect his making applications for lands.

Q. Do you recollect about his making any particular application for a large list of lands?—A. I do not know anything about a special list.

Q. Do you recollect about his making any particular application one evening about 9 o'clock in your office with a list for a large number of acres?—A. Yes.

Q. You recollect that occasion?—A. Yes.

Q. Tell us what occurred on that occasion?—A. These lands were marked with a C or a P (I do not recollect which) for the canal company. They were selections which had been filed by the canal company, and which were afterwards rejected. That is to say, that the canal company did not think that it would take them. And Buell insisted upon locating some of those lands.

Mr. PAYSON. These lands had been previously selected by the canal company?

The WITNESS. That is, marked by the canal company. The canal company, in making its selections under the second grant, would file in the office memoranda of lands, and afterwards, when they came to perfect the final list, they would probably reject some of those lands. These were lands which the canal company had thus rejected, or thought it would not take, and Mr. Buell insisted on making some entries on them, and did make them. I told him that he would make them subject to the rights of the canal company.

Mr. PAYSON. And you allowed his entries?—A. Yes.

By Mr. REDINGTON:

Q. Did you allow Buell to enter all that he applied for?—A. I do not know that he entered all that he applied for.

Question repeated.—A. If my recollection serves me, he said that if he could raise more money he would take more lands.

Q. Answer the question.—A. I suppose that he entered all that he applied for. I have no particular evidence that he did not.

Q. He applied to you to enter a certain quantity of lands, according to certain lists that he had?—A. Yes.

Q. And you allowed him to enter all those lands, except some which he was to pay for some time afterwards. Is that it?—A. No; as far as my recollection serves me, he took all that he wanted to take.

Q. What time of the night was this?—A. The talk was in the evening. I cannot tell what time it was that I came to the office that evening. I was there at work, having gone down after supper.

Q. What were you doing in the office at that time?—A. Making applications. I presume I was entering up applications, and getting the records in shape for the next day.

Q. What do you mean by "making applications"?—A. Entering them on the entry book, and posting them on the plat books and tract books.

Q. Were you making those entries at the time?—A. I was working for somebody.

Q. Who were you working for?—A. I cannot say.

Q. What were you doing when Dr. Buell came in?—A. I cannot say that.

Q. Do you know what you were doing?—A. I was at official work. That is the most I can say about it. I do not know who it was for.

Q. You do not know whom it was for, or what you were doing?—A. No, sir.

Q. You have no recollection about that?—A. No, sir.

Q. When Mr. Buell came into the room, what first occurred?—A. I cannot answer the question; that is, I do not know. I presume he came in as any other gentleman.

Q. Did he not go up to your desk where you were at work, and lay down before you a list, or minutes of land, and tell you that he desired to enter them?—A. He may have done so; but I do not have any recollection of that kind.

Q. Did you not then turn to the tract books, or to the register book, which you had before you, and enter up the first tract described on those minutes, in the name of Jesse Spaulding?—A. I do not think that that was a fact. I have no recollection of that fact at all.

Q. You would have a pretty vivid recollection of it, if it occurred, would you?—A. I think I would.

Q. Then can you tell me whether it occurred or not?—A. I do not think that any entries were made that night at all. I think the evening was consumed in talk.

Q. Is it not a fact that when Buell laid that bundle of minutes down, you turned to the tract books and entered up in the name of Jesse Spaulding the first tract described in his notes?—A. I think not.

Q. Can you not answer the question better than by saying you think not?—A. A man's memory away back fifteen or sixteen years cannot be very good. I do not think there was any entry made, or any official work done that evening after Buell came into the office. If I were going to answer from memory, I would say that there was not—that the evening was all consumed, while he remained there, in conversation.

Q. Did he not, after such an occurrence as that, say to you that you had got to stop that kind of work, and that no more lands on those minutes should be entered up in the name of Jesse Spaulding?—A. I do not know that he did; he may have done so.

Q. How could he possibly have done it, unless he had already found out that one tract had been entered up in the name of Jesse Spaulding?—A. I do not know.

Q. Would he have had any occasion to make any such remark, unless you had already entered up an application in the name of Jesse Spaulding?—A. I do not know what occasion he may have had.

Q. You think he may have made such a remark to you?—A. I do not have any recollection of his having made such a remark, or of his having occasion to make it.

Q. Did you not say to him, "Buell you cannot have these lands"? And is it not a fact that you then and there divided up that list of lands, according to the minutes, between Jesse Spaulding, Whitbeck, and Buell? Is that not a fact?—A. I should say not. If I were going to answer from memory, I should say not.

Q. Is it possible that a thing of the kind could have occurred and you not remember it?—A. I do not think it could.

Q. Can you not answer that question fairly and squarely? Is it not a fact that that is what occurred there that night?—A. My recollection is that is it not so. Of course, it is only recollection. I know that

Buell made application for lands, which were marked off, and I rejected the application, and refused them to him, and told him that he must send to the Department about them.

Q. Before he left the office, after all this was done, did he not say to you, after paying the money for the lands he had entered, "There are two 40-acre tracts here which I desire to enter, but I have not the money to do it, but will bring in the money to-morrow"; and did he not ask you to keep these two tracts for him until the next day; is not that true?—A. I would say, if I were going to answer from memory, that he did not.

Q. Can you answer any other way than from memory?—A. No.

Q. Then answer in that way. Did you not then say to him, "Buell, if you go out of the door of this room without taking these two 40-acre tracts, you will never get them"?—A. I did not. I never could say any such thing.

Q. When he came back next morning had you not entered up these two tracts in the name of Jesse Spaulding?—A. I should say not.

Q. Do you say that you had not?—A. To the best of my memory I should say that I had not.

Q. Was Mr. Spaulding in the office that night?—A. I do not recollect.

Q. Whitbeck was not, was he?—A. Not that I have any recollection of.

Q. When anybody made application for lands, or left you a minute of the lands which he desired to take up, did you file away the minutes and keep them?

The WITNESS. Do you mean for entry?

By Mr. REDINGTON:

Q. After you allowed the application, and entered it up, and gave the man a duplicate receipt, what did you do with the application?—A. After the entry has been perfected on the books, the application goes to the receiver, and the receiver issues his receipt, and the application is either in the receiver's office or in the register's office.

Q. I am not talking of the application to the Government, but directly to the receiver. Suppose I should go into the office, and ask you to enter a tract of land, and should give you a minute of it, what would you do with that paper after the entry is allowed?—A. I should not do anything with it. The memorandum would belong to the man himself. I should have nothing at all to do with it. The original application is the paper that we work from.

Q. Was it not the practice of that office to retain this memorandum?—A. I think not. I did not do so.

Q. I believe you have already testified that, with reference to the odd sections within the railroad limits, after May 29, 1873, you were guided in your dispositions of the land by this list which had been sent to you?—A. Yes.

Q. That is so, is it not?—A. Yes.

Q. After May 29, 1873, and up to the time you left the office, do you know how many odd sections you disposed of within the 6-mile limits of the Ontonagon and State Line grant, and to whom you disposed of them.

The WITNESS. Do you mean lands embraced within that limit?

Mr. REDINGTON. I mean lands embraced within the 6-mile limits of the grant.

The WITNESS. No, I cannot tell you.

Mr. PAYSON. Let me understand this. There are some lands within the 6-mile limits which were not included in the list of May 29, 1873, are there?

The WITNESS. Oh, yes, a large amount of them.

Mr. PAYSON. That list which you used as a guide, had it reference to any other than the clear lands of the Ontonagon grant?

The WITNESS. My impression is that it contained mostly clear lands.

Mr. DAVIS. I beg pardon. It contains no lands south of 42.

Mr. REDINGTON. I say that that list did include lands within the common limits. It included homesteads; for instance, 42, 43, and 44 are within the common limits.

Mr. DAVIS. The restoration list of 1873 contained no lands in township 42.

Mr. REDINGTON. So I say; 43 is the southern township of the common limits, and there are three townships above that in the common limits.

Mr. PAYSON. But there is a large area of land not included in that list and within the 6-mile limits of the railroad grant.

Mr. REDINGTON. Oh, yes. A large amount of them had been entered before that time.

By Mr. REDINGTON:

Q. Is it not a fact that before the year 1873 and after the receipt of this letter you disposed of lands within the 6-mile limits of that grant to only three individuals?—A. I do not recollect that. I cannot say; the records will show.

Q. Is it not true that the only men to whom you disposed of land within the 6-mile limits were Jesse Spaulding, Truman Woodford, and John Malvey in the year 1873?—A. I do not recollect.

Q. And is it not true that the amount of land so disposed of was $1,549\frac{8}{100}$ acres to Spaulding, 160 to Woodford, and $190\frac{56}{100}$ to Malvey?—A. That is very possible. I do not recollect Malvey at all.

Q. During the year 1875 is it not true that you only disposed of those lands to five individuals?—A. I cannot say; I cannot recollect.

Q. During 1877——

Mr. Davis objected to the testimony, but it was permitted with the understanding that the canal company would in some way be connected with it.

Q. Is it not true that in 1877 you only disposed of those lands to two individuals, and that Jesse Spaulding was one of them?—A. I cannot say.

Q. Is it not true that during the period of your incumbency of that office from 1873 to 1879, at the time of the receipt of that letter, you had only disposed of such lands to ten individuals?—A. I cannot say.

Q. Is it not true that during the entire time of your incumbency of the office as register at Marquette, you never disposed of the lands within the 6-mile limits of this Ontonagon and State Line grant to more than eighteen individuals, corporations, and firms?—A. The records will show. I cannot say from memory to how many I disposed of these lands, whether to fifteen or twenty-five or one.

Q. Did you ever dispose of any of those lands to individuals in small lots?—A. I cannot say.

Q. What was the general nature of the applications made for these lands? Were they made by lumbering companies or by persons interested in lumbering, and in large amounts, or were they for small, isolated tracts?—A. That I cannot say; some of the names that you have mentioned, I do not know their business and never did know.

Q. Did you not know at the time?—A. No, and I do not recollect the men.

Mr. PAYSON. In that connection (whether the quantity was large or small) did you dispose of it without any preference to any body?

The WITNESS. Yes, that is the idea.

By Mr. REDINGTON:

Q. You swear that with reference to these lands you disposed of them indiscriminately to anybody that applied?—A. Yes, outside of this list.

Q. You never refused anybody's application within those limits who applied to enter them?—A. I think not.

Q. Did you ever have any application from F. L. Lozier?—A. Not that I have any recollection of.

Q. Did you ever have any application from Mr. Ortina to enter lands which you refused?—A. No.

Q. Did Mr. Breitung, now a member of Congress from that district, apply to you for lands which you refused?—A. If the lands were outside of this list, they all got them.

Mr. REDINGTON. Answer the question.

Mr. PAYSON (to the witness). The question assumes that they were outside of the list.

The WITNESS. If they made applications for lands outside of this list, they were not refused.

Mr. REDINGTON. Do you mean to say that you never rejected the application of either of these three individuals for lands outside of this list?

The WITNESS. No, sir.

Mr. DAVIS (handing a paper to Mr. Redington). Here is the notice of 1872.

Mr. REDINGTON. Do you admit that this is the notice?

Mr. DAVIS. Certainly, and I am going to use it.

Mr. REDINGTON. Will you permit me to offer it in evidence?

Mr. DAVIS. Certainly.

Mr. REDINGTON. This is the notice, No. 752, describing the lands that were withdrawn.

Mr. PAYSON. The one received anterior to the one with the diagram?

Mr. REDINGTON. Yes.

The notice was read and put in evidence, as follows:

No. 752.

Notice of the restoration of certain lands to market in Michigan.

Notice is hereby given that the odd numbered sections and parts of sections in the Marquette district, within the following boundaries, viz: East of the extreme limits of the C. & N. W. R. R., north of the line dividing townships 40 and 41 north; west of the line dividing ranges 15 and 16 west, and bounded north by Lake Superior, heretofore withdrawn from market for the adjustment of a grant of land made by Congress, July 3d, 1866, to the State of Michigan, to aid in constructing the Lac La Belle Ship-Canal, will on Monday the 5th day of June next, be restored to market at the ordinary minimum price of $1.25 per acre.

Given under my hand, &c., this 12th day of April, 1871.

WILLIS DRUMMOND,
Commissioner.

Mr. PAYSON. I understood Mr. Campbell to say also that his understanding was, that that was intended as a restoration of the entire Lac La Belle reservation.

Mr. REDINGTON. Yes.

Mr. PAYSON. And that he assumed that there was some mistake in the office and wrote for further instructions. Is that the way?

Mr. REDINGTON. Yes.

Mr. PAYSON. And subsequently to that this colored diagram came enlarging the amount of land?

Mr. REDINGTON. Yes. The fact is that the lands south of 41 were not included in this order, and were included afterwards in the colored diagram.

Mr. DAVIS. That is it exactly.

Mr. PAYSON. Then there seems to be no dispute as to those facts?

Mr. REDINGTON. It is admitted that the diagram colored yellow, which was sent by the General Land Office in answer to Mr. Campbell's letter to the Land Office, showed the lands south of 41 together with other lands north of 41, and that all were colored yellow.

Mr. PAYSON. Then his statement about the diagram is practically undisputed.

Mr. DAVIS. In this connection I refer to the letter on page 26 of the Canal History which has been already offered in evidence. I will read it:

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
Washington, D. C., May 26, 1871.

GENTLEMEN: For your kindness in matter of restoration odd numbered sections on the 6th prox., under notice 752, and in answer to your letter of the 12th instant, I inclose herewith diagram of Michigan, and such that are colored yellow thereon are the lands to be restored under said notice.

The lands lying north of line dividing townships 40 and 41, west of line dividing ranges 14 and 15 west, and outside of railroad limits, were restored on 15th June, 1868, by No. 727.

Very respectfully,

WILLIS DRUMMOND,
Commissioner.

REGISTER and RECEIVER, *Marquette, Mich.*

[To the witness.] Did I understand you to say that the lands marked yellow on that diagram exceeded the limits described in notice 752?—A. They did.

Q. And you acted on that and allowed some entries?—A. Yes.

Q. You followed the colored diagram?—A. Yes.

Q. And these are the Spaulding and Whitbeck entries about which you testified?—A. Yes; the June entries.

Q. They were allowed on account of the discrepancy between the colored diagram and the written notice?—A. Yes.

Mr. PAYSON (to Mr. Redington). Are you willing to assent to that statement that the Spaulding and Whitbeck entries at the June sale were of the lands that were colored yellow on the diagram? Is there a dispute between you as to that?

Mr. REDINGTON. No; with the addition that the lands lay south of 41.

Mr. PAYSON. The witness says so. Because they were colored yellow on the diagram he allowed Spaulding and Whitbeck to make these entries.

Mr. REDINGTON. He does not say that.

Mr. PAYSON. It is conceded that the Spaulding and Whitbeck entries were in the yellow, colored lands and south of 41, as shown by this diagram.

Mr. REDINGTON. Undoubtedly.

Mr. DAVIS (to the witness). I read from page 27 of the Canal History the following letter:

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
Washington, D. C., July 8, 1871.

GENTS: You were directed by telegram of the 3d instant to suspend sales of lands outside of railroad limits and south of township 41 until further notice. These lands

were not restored by our notice, No. 752, dated April 12th, 1871, which only restored lands north of that line and not south of it, which latter were intended, however, to have been embraced by said notice but invertently omitted. Acting upon my letter of the 26th of May last and accompanying diagram you treated these lands as restored on the 5th June, ult., and made some sales thereof. As a mistake was made in the preparation of the diagram, and the said lands were not designated in the notice of restoration, you will continue the suspension of sales, as directed by my telegram of the 3d instant, and make a special report, with a full statement of the facts connected with the sale of the lands south of township 41, and whether any conflicting claims are known to exist.

Upon a reconsideration of the matter I have concluded to restore the lands mentioned by regular advertisements, and notices for that purpose will be prepared and sent to you at an early day, but in the mean time I shall expect to receive your special report mentioned.

You will of course let the land sold, as above mentioned, appear in your regular monthly report of sales.

Very respectfully,

WILLIS DRUMMOND,
Commissioner,

REGISTER and RECEIVER, *Marquette, Mich.*

The Spaulding and Whitbeck lands were the lands last mentioned in this letter which I have read, and they were sold under that misapprehension?—A. Yes; with the other lands.

Q. At the time when you made these sales to Spaulding and Whitbeck of lands lying south of 41, all the lands south of 41 were reserved to the canal company, were they?—A. And to the Lac La Belle Company.

Q. The Lac La Belle reservation had been made also for the benefit of the Portage Lake Canal Company, had it not?—A. I do not recollect whether the Commissioner ever instructed the office to allow the Portage Lake Canal Company to go within the Lac La Belle limits, or not. It is a matter of record.

Q. You reported these entries to the Department, did you not?—A. I did.

Q. And these entries were passed upon by the Department?—A. Yes.

Q. And the entries were rejected?—A. Yes.

Q. And it led to a long dispute between the canal company and Spaulding and Whitbeck, did it not?—A. It did, I believe.

Q. There was ultimately a compromise between the canal company and Spaulding and Whitbeck, and Spaulding and Whitbeck were allowed to take the patents?—A. I heard that that was so.

Q. Spaulding and Whitbeck were antagonistic to the canal company in the matter, were they not?—A. Of course they were.

Q. And all entries allowed by you at that time south of 41 were entries made against the interest of the canal company?—A. I suppose the canal company so considered it.

Q. The canal company considered them as trespassing on its reservation did it not?—A. I suppose so. If not, it would not have contested them

Q. To come back to the question of tract books: As I understood your testimony yesterday, the two principal books in the office were a plat book containing all the maps of land within your district.—A. Yes; that was one.

Q. And each plat showed a township?—A. Yes.

Q. Now, the tract book was a description of the lands by Government subdivions, was it not?—A. Yes.

Q. If the Commissioner of the Land Office reserved lands north of 40 and west of 19, it took out from the lands subject to private entry a

vast number of acres, did it not?—A. Yes; I should say that it took half of the Lake Superior district.

Q. To go through the tract books and find in them, or to go through the plat books and find in them, all the lands withdrawn by this notice would be very considerable of a job, would it not?—A. Yes, it would.

Q. What was your custom when there was such a wholesale withdrawal of lands as that?—A. Simply to treat the lands as out of market, from the Commissioner's letter.

Q. And not note it either on the tract books or on the plat books?—A. No, sir.

Q. That was not done because of the excessive labor incident thereto?—A. Yes, sir.

Q. These withdrawals were not permanent, but simply for a short time; was not that so?—A. That was what we supposed.

Q. That was the effect, was it?—A. Yes.

Q. If a withdrawal of that nature was made for a railroad company, it would be treated in the same way, would it not?—A. Yes.

Q. But after a railroad company had filed its map of definite location and had selected certain lands, or if lands within certain small limits were withdrawn, these would be noted on the tract books and on the plat books?—A. Yes.

Q. Was the Portage Lake Canal Company in this matter of noting withdrawals on the tract books and the plat books treated differently from any other company?—A. Not that I am aware of.

Q. You treated all reservations of that sort in the same way?—A. In the same way.

Q. The grants of 1865 and of 1866 for the purposes of this canal were grants nominally to the State of Michigan, were they not?—A. That is the way I understood it.

Q. And you understood that the State of Michigan appointed an agent to select the lands?—A. Yes, that is customary in all these grants.

Q. Tell the committee how, under the second grant in making a selection of the lands, the business was done at your office?—A. The canal company selected the lands from actual explorations as I suppose. They had men in the woods looking up their lands.

Mr. PAYSON. Getting the best that they could?

The WITNESS. Getting the best that they could.

By Mr. DAVIS:

Q. Do you know Professor Pumpelly?—A. Yes, sir.

Q. Was he the agent of the canal company for the purpose of having lands examined?—A. He was there acting for the canal company, as I suppose.

Q. When he appeared at your office, what did he do?—A. He generally had a list of selections which he would file there. And these lists were held (because sometimes there were only a few hundred acres and sometimes a few thousand acres) until they would run up to 10,000, 15,000, or 20,000 acres.

Q. At that time the lands in the upper portion of the peninsula were withdrawn from market for the purpose of enabling the canal company to make its selections?—A. No, sir.

Q. All the lands north of 41 and west of range 21 were withdrawn?—A. No, sir. I understood that they were put back in the market in 1868, after I took the office.

Q. You do not understand that all that country was withdrawn from

market at that time for the benefit of the canal company?—A. I did not understand that anything was withdrawn from market for the benefit of the canal company. I understood that the canal company was making selections for its second 200,000 acres from lands that were subject to entry. That is the way I understood it, because the original withdrawal for the first 200,000 acres was restored right away after I got into the office.

Q. You do not understand that any of this Upper Peninsula of Michigan was withdrawn from market for the purpose of enabling the canal company to select its lands under the act of 1866?—A. I do not.

Q. On page 41 of the Canal History is a letter dated May 29, 1874, from W. W. Curtis, Acting Commissioner, addressed to the Secretary of the Interior, and on the next page is a letter written to the register and receiver at Marquette, by Mr. Curtis, as follows:

GENTLEMEN: In accordance with the instructions of the Hon. Secretary of the Interior of 29th ultimo, you are hereby directed to withhold from entry and location for ninety days the vacant old sections and parts of sections in townships 41, 42, and 43 north, of ranges 29, 30, 31, and 32 west, and townships 42, 43, and 44 north of range 33 for the purpose of allowing the agent of the State to select for the benefit of the Portage Lake and Lake Superior Ship-Canal Company the residue of lands inuring to said company under the act of July 3, 1866.

You are also further directed to withhold from entry and location on the vacant odd sections embraced within the withdrawal of July 14, 1866, for the Lac la Belle Ship-Canal until further orders.

Please acknowledge the receipt of these instructions.

And on page 43 of the same book is a letter written by Mr. Burdette, Commissioner, to the register and receiver at Marquette, Mich., in which the following paragraph occurs:

You were directed by our letter of 1st instant to continue the withdrawal of odd sections from entry until further orders that fall within the Lac La Belle Ship-Canal Reservation of July 14, 1866. I have now to state that said withdrawal is held for the benefit of the Portage Lake and Lake Superior Ship-Canal Company, and that the limits are confined to that portion north of line dividing townships 40 and 41 north, and west of line dividing ranges 15 and 16 W.

Is it not true, after hearing these letters read, that the Lac La Belle withdrawal was by the Commissioner declared to be for the benefit of the Portage Lake Canal Company?—A. That would seem so.

Mr. PAYSON. The record shows for itself.

By Mr. DAVIS:

Q. Professor Pumpelly appeared at your office and furnished you from time to time with lists of lands which he wanted?—A. Yes.

Q. Did he have access to the plat books?—A. He had.

Q. Would he designate on the plat books the lands that he wanted?—A. I think that he marked them himself.

Q. How would he mark them?—A. In pencil with a C or P.

Q. What did P stand for; was it for Pumpelly?—A. I do not know what it indicated, but my impression was that P stood for choice lands. That was my impression—that they were better lands than those with other marks.

Q. In any event he marked various lands there as lands which he proposed to select for the canal company?—A. Yes. He would review the plats and mark them, I think, himself.

Q. What happened next after a sufficient list was got to send forward? What would be done?—A. It was done by the State agent.

Q. What was done?—A. A list was prepared in proper form as directed by the Department. That is to say, the State agent would appear there, and these pieces of lands would be got together and put into one

list. Then the fees would be computed. Then the State agent would attach his certificate certifying that he was the State agent, and that he had selected the lands for a certain purpose, under a certain act, and he would make affidavit to it. When he got through, it was handed to the register and receiver, and they would review it by the record of their offices and test the correctness of the tracts.

Mr. PAYSON. They would see whether there was any conflict?

The WITNESS. They would see whether there was any conflict with private entries or State lands or any other lands.

By Mr. DAVIS:

Q. Was this the form of the certificate: "We hereby certify that we have carefully and critically examined the foregoing list of lands claimed by the State of Michigan, by act of Congress, &c., and that the whole of said lands are surveyed public lands of the United States, and that the same are not mineral lands, nor is there any homestead, preemption, State, or other valid claim on file or record in the office. And we further certify that the foregoing list shows an assessment of the fees allowed by act of Congress and contemplated by the circular of instructions addressed by the Commissioner of the General Land Office, and that said company has paid to the undersigned $199.50 in full payment of the charges." Is that the form of certificate?—A. I should say that that is the form so far as I can recollect it from memory.

Mr. PAYSON. In a general way the recitals in the form indicate the course of procedure and business, do they?

The WITNESS. Yes.

By Mr. DAVIS:

Q. When you did that, what was done with the lists?—A. The lists were generally handed back to the State agent.

Q. What did he do?—A. I suppose that he took them to the Department at Washington.

Q. And they were passed upon here?—A. Yes.

Q. And if any of the lands were rejected here, how did you hear of it?—A. The list was overhauled here, and a new list prepared in the Department on its own blanks, and such lands as the company was not entitled to were rejected. There were generally more or less of the lands rejected. There were, I understood, three copies of the list made, one of them went to the State, one to the agent, and one to the local office with instructions. We would then post it in the tract books and mark it on our plats.

Mr. PAYSON. All these prior markings being simply preliminary to the general closing of the business?

The WITNESS. Yes, in order to keep track of the lands.

By Mr. DAVIS:

Q. And were lands that were selected by the canal company sometimes rejected by the Department?—A. Yes.

Q. And did Pumpelly and the State agent often designate lands that ultimately the canal company did not take?—A. I think that there was quite a good deal of land which the canal company did not in the end take.

Q. Do you mean lands other than those rejected?—A. Yes.

Q. They had designated certain lands which they would probably want?—A. Yes.

Q. And they afterwards declined taking them, and a list was made up of the lands which they ultimately agreed to take?—A. My impres-

sion is that, in the first list, they marked off in pencil quite a large quantity of lands which they did not get when they came to complete their list, because they were in excess of the lands that the company was entitled to.

Q. We had a long examination yesterday about a 50,000 acre tract of land which the canal company attempted to take and which was not taken at that time, because it was within railroad limits; and you and Mr. Redington proceeded on the theory that some of those lands, or all of them, were within the Ontonagon and State Line limits.

Mr. REDINGTON. Leave me out of that question, for I did not proceed on any such theory.

Mr. DAVIS. Look at page 22 of the Canal Record, being the letter of Joseph S. Wilson, Commissioner, addressed to the Hon. P. J. Avery, president of the Portage Lake and Lake Superior Ship-Canal Company, which letter was offered in evidence yesterday, and state whether the 50,000 acres of land about which you testified yesterday were or were not within the Ontonagon and State Line grant.

Mr. REDINGTON (to Mr. Davis). I think we had better agree that such portions of these records as are referred to without objection shall be considered as being in evidence.

Mr. DAVIS. Yes.

Mr. PAYSON. You had better put in writing what pages are to be considered in evidence.

Mr. Redington and Mr. Davis agreed that they would do so.

The WITNESS. My impression at first was that these 50,000 acres were within the Ontonagon and State Line limits, and after looking at this letter I think it would imply that they were within other limits than the Marquette and State Line limits. This letter brings another thing in my mind now, which I did not think of yesterday. My recollection is that there were some lists presented there which we were not sure about and that I refused to certify them, and I infer from this letter that those lists had gone to the Department without our certifying them. I will read that portion of the letter:

It is further shown that on the 9th July, 1868, a release was filed by said State and railroad company descriptive of the tracts along the branch line to Marquette, which covers the tracts embraced in your preliminary list. In regard to your impression that the release is defective, I have to say that it is *complete*, and meets the requirements of this office. It will be necessary to have the selections in said list verified by the register and receiver at Marquette, and the feesr equired by law paid, and, upon their being returned to this office for examination, if found correct they will be submitted for approval.

Mr. PAYSON. Your idea being that some examinations that were made by the canal company were sent to the General Land Office here for its approval without their being first verified by the local land office at Marquette?

The WITNESS. Yes.

Mr. REDINGTON. Do you refer now to a particular list?

The WITNESS. I should infer so from this letter.

By Mr. DAVIS:

Q. This release executed by the railroad company to the State of Michigan, and by the State of Michigan to the United States, for the Marquette and State Line lands, you had nothing to do with?—A. No, I had nothing to do with it.

Q. The only list that you had anything to do with was the list of clear lands in the Ontonagon and State Line grant?—A. Yes.

Q. That release was executed in 1870, was it not?—A. I think it was.

Q. And these are the lands embraced in the notice called the Bagley notice?—A. That is what I suppose.

Mr. PAYSON (to Mr. Davis). What is the Bagley notice?

Mr. DAVIS. The notice of May, 1873—the notice of restoration made by the Department here of the Ontonagon and State Line clear lands. [To the witness.] Referring to this Bagley notice of May, 1873, there was a withdrawal of lands in 1856, was there not, for the Ontonagon and State Line road and for the Marquette and State Line road?—A. Yes, as I have understood it.

Mr. DAVIS. I offer now in evidence notice No. 658, on pages 34 and 35 of the Railroad History, being a notice of restoration of lands to market outside the six miles limit. I also offer in evidence the letter of Mr. Joseph S. Wilson, Commissioner, on pages 35 and 36 of the same history (all this being designated as No. 10). It is as follows:

No. 10.

Notice restoration of lands to market outside six miles limit.

(Notice No. 658.)

Restoration of certain lands to market in the State of Michigan.

APRIL 20, 1860.

The grant of lands made by the act of Congress approved June 3, 1856, to the State of Michigan, to aid in the construction of certain railroads therein mentioned, having been so far adjusted as to authorize the release from withdrawal of the lands hereinafter described.

Notice is hereby given that all the vacant offered lands which lie outside of 6 miles on each side of the railroads "from Little Bay de Noquet to Marquette, and thence to Ontonagon, and from the two last-named places to the Wisconsin State line," situated in the undermentioned townships, which have not been selected in virtue of said grant, or reserved for any purpose whatever, and which were subject to private entry at the date of withdrawal, at the ordinary minimum of $1.25 per acre, or at the graduated prices under the act of August 4, 1854, will be restored to private entry on the days and at the places hereinafter specified at the ordinary minimum of $1.25 per acre, or at the prices to which they may have graduated at the date of withdrawal.

At the land office at Marquette, on Monday, the 18th day of June next, viz:

North of base line and west of principal meridian:

	Range.
Townships 42, 43, 44, 45, 46, and 47	20
Townships 42, 43, 44, 45, 46, 47, and 48	21
Townships 42, 43, 44, and 45	22, 23
Townships 42, 45, 46, and 47	24
Townships 42, 43, 46, and 47	25
Townships 42, 43, 47, 49, and 50	26
Townships 42, 43, 44, 45, and 50	27
Townships 42, 43, 44, 45, 46, 48, 49, and 50	28
Townships 42, 43, 44, 45, 46, 48, 49, and 50	29
Townships 42, 43, 44, 48, 49, and 50	30
Townships 42, 43, 45, 46, 47, 49, and 50	31
Townships 42, 44, 45, 46, 47, 49, and 50	32
Townships 42, 44, 45, 46, 47, and 48	33
Townships 42, 44, 45, 46, and 47	34
Townships 46, 47, and 52	35
Townships 42, 43, 44, 48, 49, and 52	36
Townships 42, 43, 44, 45, 46, 47, 49, 52, and 53	37
Townships 43, 44, 45, 46, 47, 52, and 53	38
Townships 47, 48, 49, 52, and 53	39
Townships 47, 48, 49, 50, and 51	40
Townships 49, 50, and 51	41, 42

Given under my hand at the city of Washington this 10th day of April, 1860.

JOS. S. WILSON,
Commissioner of the General Land Office.

[To the witness.] Have you read the paper just offered in evidence?—A. I have read it in this book.

Mr. DAVIS. I now offer in evidence, on page 3 of the Canal History, a letter dated May 26, 1865, from Mr. Edmunds, Commissioner, to the register and receiver at Marquette, as follows:

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
May 26, 1865.

REGISTER and RECEIVER,
Marquette, Michigan:

GENTLEMEN: Letters have been received by this Department from Gov. Crapo and H. Barnes, of Michigan, requesting that all of the vacant odd-numbered sections in your district be withdrawn from market till the grant in aid of the construction of a harbor and ship-canal at Portage Lake, Keweenaw Point, Lake Superior, can be adjusted.

The Secretary of the Interior has authorized the withdrawal of a sufficient body of lands in that locality to insure the ultimate selection of the full quantity of land granted for said harbor and ship-canal. You are therefore directed to withdraw from sale, location, or claim, all of the vacant odd-numbered sections and parts of sections in your district west of Range 21, and north of township 40, until further advised by this office.

In acknowledging these instructions you will please state the precise time of their reception at your office, noting the facts at the same time upon your records.

Very respectfully, your ob't serv't,

J. M. EDMUNDS,
Commissioner.

By Mr. DAVIS:

Q. You knew of the release of the clear lands which you drew yourself?—A. Yes.

Q. Up to the time of the receipt of the Bagley list, in May, 1873, was there anything in your office that advised you that the Ontonagon and State Line lands, either in the clear limits or anywhere along the line, had not been released to the United States; or was there anything to give you notice of it except the matters of which you have testified?—A. I did not get your question exactly.

Q. Up to the time of the receipt of the Bagley list was there anything in your office to show you that there was any dispute about the lands of the Ontonagon and State Line belonging to the United States being subject to private sale?—A. There was not. I modify that answer by adding except what I stated yesterday about the tract books and plats.

Q. With that exception there was nothing else?—A. There was nothing else.

Mr. PAYSON. Your idea of it being that the release made by the governor of the State of Michigan was evidence enough to convey to the United States the title which the State of Michigan had theretofore to these lands. That is what you mean to be understood as saying?

The WITNESS. Yes.

Mr. REDINGTON. But the release had not been made at that time.

Mr. DAVIS. Certainly it had been. In that connection I want to introduce notice 727, on page 84, of the Canal History.

Mr. REDINGTON. I have no objection to its introduction, with the understanding that if these papers be considered important I shall have an opportunity to satisfy myself as to their correctness. A good deal of the papers in both these books are incorrect. I have no objection to their going in, subject to my seeing that they are correct copies.

Mr. DAVIS. Certainly. I now offer notice No. 727, and will read it to the committee:

Notice (No. 727).

For restoration of certain lands to market in Michigan.

Notice is hereby given that certain tracts in the townships hereinafter mentioned of the district of lands subject to sale at Marquette, Mich., containing in the aggre-

gate 390,366.74 acres, which were withdrawn from market for the adjustment of a grant of land to the State of Michigan for ship-canal purposes, made by acts of Congress approved March 3, 1865, and July 3, 1866, will, on *Monday, the 15th day of June next*, be restored to market at the ordinary minimum price of $1.25 per acre, *the tracts referred to* being those which had heretofore been duly offered at public sale pursuant to the proclamation of the President of the United States, viz:

North of the base line and west of the principal meridian.

	Range.
In township 41	25
In townships 41, 42, 43, and 51	26
In townships 41, 42, 43, 44, 51, 52, 58, and 59	27
In townships 41, 42, 43, 44, 51, 52, 58, and 59	28
In townships 41, 42, 43, 44, 51, and 52	29
In townships 41, 42, 43, 44, 51, 52, and 56	30
In townships 41, 42, 43, 54, and 56	31
In townships 41, 42, 44, 45, 54, 55, 56, and 58	32
In townships 41, 42, 44, 45, 54, and 57	33
In townships 42, 44, 45, 46, 55, and 56	34
In townships 41 and 46	35
In townships 42, 43, 44, 45, and 55	36
In townships 42, 43, 44, 45, and 46	37
In townships 43, 44, 45, 46, and 47	38
In townships 43, 44, 45, 46, and 47	39
In townships 44, 45, 46, and 51	40
In townships 44, 45, 46, 49, 50, and 51	41
In townships 44, 45, 46, 47, 49, 50, and 51	42
In townships 44, 45, 46, 47, 48, 49, 50, and 51	43
In townships 45, 46, 48, 49, 50, and 51	44
In townships 45, 46, and 47	45
In townships 45, and 46	46
In townships 46, 47, and 48	47
In township 48	49

A list descriptive of legal subdivisions of the tracts to be restored to market will be retained in the district land office, at Marquette, for the inspection of parties wishing to purchase.

Given under my hand at the General Land Office, in the city of Washington, this 24th day of April, 1868.

JOS. S. WILSON,
Commissioner of the General Land Office.

Mr. DAVIS. This is a notice of restoration of 390,000 acres of land that had been theretofore withdrawn from market for the benefit of the Portage Lake Canal Company.

Mr. PAYSON. And it includes the lands formerly withdrawn north of Township 40?

Mr. DAVIS. Yes.

Mr. PAYSON. After selections being made it purports to be a restoration of the unselected lands?

Mr. DAVIS. Yes. It is dated April 24, 1868.

Mr. PAYSON (to the witness). Is that the same restoration that you referred to in your testimony yesterday?

The WITNESS. I suppose so.

Mr. PAYSON. You testified yesterday to a restoration in 1868.

The WITNESS. Yes, after I took the office.

Mr. PAYSON (to Mr. Davis). And this you claim to be the paper about which the witness testified yesterday?

Mr. DAVIS. Yes; this is one of them.

By Mr. DAVIS:

Q. Look at the list, and state whether the townships named in that list embrace the territory in which the Ontonagon and State line lands were situated?—A. I cannot, without a diagram, answer that question.

Q. Now, we come to the Bagley list, the list of May, 1873. Had there

been any entries allowed in the Ontonagon and State line grant by your predecessor, Mr. Edmunds?—A. I believe there had been.

Q. And before May, 1873, you allowed entries on them?—A. I did.

Q. Had those entries been patented by the Department here?—A. They had been.

Q. You said yesterday that on thinking the matter over you concluded to write a letter to the General Land Office asking for a definition of the word "limits"?—A. Yes.

Q. That letter was written in 1872, was it not?—A. Yes.

Q. This Bagley list of 1873 was received by you after you had written the letter of 1872?—A. Yes, sir.

Q. Was that the first letter that you received from the General Land Office on that subject after your letter of 1872?—A. It was, while I was register.

Q. And, after the receipt of that letter how do you say you treated the lands in the Ontonagon and State Line grant?—A. I treated all the lands not embraced in that list as in market, and I sold them.

Q. Were the certificates sent forward to the Department here?—A. Yes, every month.

Q. Were any of them patented?—A. Yes.

Q. There was no objection made by the General Land Office to that action of yours?—A. Not any while I was register.

Q. You were asked yesterday whether, when you wrote that letter in 1872, you allowed all the good lands or all the valuable lands in that grant to be entered, and whether it was then that you wrote to the Department the letter of 1872. Explain to the committee how that it is.

The WITNESS. Please repeat that question.

Mr. DAVIS. You were asked yesterday whether you did not write that letter of 1872, asking the Department to define the Ontonagon and State Line limits after you had allowed a number of corporations and individuals to take what you considered to be the best lands in that district?—A. If I answered that I did so after the best lands were located, I did not mean to do so.

Mr. PAYSON. The witness did not say so.

The WITNESS. Because there were very few lands entered at that time.

By Mr. DAVIS:

Q. And that had nothing to do with the writing of that letter?

The WITNESS. Do you mean the making of the entries?

Mr. DAVIS. Yes.

The WITNESS. No; I would say not.

Q. The fact that corporations or individuals were entering particular lands, had it anything to do with your letter of 1872?—A. No. That was a matter which I got to thinking over in my own mind. I did not want to complicate myself or the Department; and knowing that the release had been made of the clear lands, it occurred to me that they could not have been restored to market, and I wrote for information.

Q. And after you received that letter of 1873 giving the list of the lands, you treated that as designating the lands which were not to be sold?—A. Yes; and I always did it up to the time that I left the office.

Q. Referring to the entry made by Mr. Selden and to Dr. Sears's application about which you gave testimony yesterday, state whether Dr. Sears's application was verbal or written.—A. I do not know as to that. I never see any written applications.

Q. Referring to the Anthony list about which you were asked this

morning, I understood you to say that when the Anthony list was brought there and when you were asked to enter certain lands for the canal company, you informed them that some of those lands were taken by somebody else.

The WITNESS. I do not get your idea.

Q. You recollect the Anthony list that was presented to you?—A. Yes.

Q. You did not allow the canal company, did you, to enter all the lands that were embraced in that list?—A. I think that all the lands that were on that list had been entered. That would be my recollection.

Q. And you declined to allow the canal company to take them?—A. No; I did not decline at all.

Q. But you notified them that the lands were taken before?—A. Yes.

Q. And that is all there is of it?—A. Yes. I would like to explain. After the entries had been made at the June sale, and after the Commissioner had canceled them, as I recollect it, the county clerk of Menominee County sent up for an abstract of the lands of those June entries. An abstract was prepared and sent to him, and the next thing that the office saw was a list from the canal company embracing the same lands to be filed as selections of canal lands.

Mr. PAYSON. That is the list known as the Anthony list.

The WITNESS. I suppose it is.

By Mr. DAVIS:

Q. And that is all there is about the Anthony list?—A. That is all that I know about it.

Q. There was no fraud or corruption in the matter on the part of the canal company?—A. I do not know anything about it.

Q. Referring to Mr. Buell's application to you one evening about nine o'clock, you were asked in that connection about Jesse Spaulding and Whitbeck and Carney and the Ludington Company and various lumbering companies. Had any of these parties anything to do with the canal company?—A. Not that I was aware of.

Q. Had the canal company any interest or connection in the lands embraced in the list which Buell brought there?—A. The canal company had filed, I think, memorandum lists for some of those lands.

Q. Had the canal company any connection with Jesse Spaulding or Whitbeck or any of the lumbering firms at the time that Buell came to your office and applied to enter lands? What had the canal company to do with them?—A. These were lands which I think Professor Pumpelly had filed memorandum lists of.

Q. Designating them as lands which the canal company might possibly want?—A. Yes.

Q. Did the canal company have anything else to do with these lands?—A. I do not know that it had.

Q. In all the lands entered by the old canal company during your term of office, were you bribed or corrupted to do anything or to neglect to do anything in or about any of those lands?—A. Not that I am aware of.

Q. You would have been aware of it if you had been bribed or corrupted, would you not?—A. I should think so.

Q. Did you do anything for the canal company in or about any of the lands which the law did not authorize you to do?—A. Yes.

Q. What?—A. I helped to make the lists.

Q. Making the lists was clerical work, was it not?—A. The law provides that the State agent shall prepare his own lists.

Q. And the State agent did not do it?—A. He did not do it.

Q. And you did it for him?—A. Yes.

Q. With the exception of that, did you do anything which the law did not authorize you to do?—A. No, sir.

Q. Nothing improper or irregular?—A. Not that I am aware of.

Q. If it had been, you would have been aware of it?—A. Certainly.

Q. Was there any fraud practiced by you, or by the canal company, in or about these entries that you know of?—A. Not that I am aware of. The canal company never asked anything but what the law provided it should have.

Question repeated.—A. No, sir.

Mr. PAYSON. There was no community of interest between Buell and the canal company, as I understand you, at the time of the conversation in the evening when he came with the list? The list was not in the interest of the canal company, was it?

The WITNESS. Not that I am aware.

Mr. DAVIS. The lands that Buell wanted were lands that had been theretofore selected by the canal company, were they?

The WITNESS. Yes.

Mr. PAYSON. Was Buell there in the interest of the canal company or in his own interest?

The WITNESS. In his own interest, as I understood it.

By Mr. REDINGTON:

Q. Do you know what sort of a compromise was effected between the Spaulding and Whitbeck interest and the canal interest, to which you have referred?—A. I do not, except that I understood that Spaulding and Whitbeck got the lands.

Q. Do you know anything about the terms of the compromise?—A. Not about its details.

Q. You know that Spaulding and Whitbeck finally got the lands?—A. Yes.

Q. Do you know that that was done after the lands had been given to the canal company by the General Land Office?—A. It was done after the canal company filed its lists.

Q. Was it done after a final decision by the Department in favor of the canal company?—A. That I do not know.

Q. You do not know the basis of the compromise or anything about it?—A. No, sir.

Q. Did you ever, during the administration of your office, have occasion to note any withdrawals of any kind, except those canal withdrawals you speak of?—A. The only withdrawal that I ever had occasion to note, or to have anything to do with, after I came into the office, was in the case of that notice which you read here this morning from a letter. Just north of 41 some nine or twelve townships were withdrawn.

Q. You say you did not note this upon the tract books because of the excessive labor. Is it a great labor to note upon the tract books the withdrawal of nine or twelve townships?—A. It would be if you posted everything up.

Q. Is it a work of great labor to post upon the tract books ten or twelve townships?—A. Not a terribly great labor.

Q. How long would it take one active clerk to do it?

The WITNESS. To post them all up?

Mr. REDINGTON. Yes; a dozen townships.—A. It would take him the best part of a week.

Q. Then a week's labor by a clerk would put them all upon the tract books?—A. Yes.

Q. I want to see if I understand about the way Professor Pumpelly was in the habit of marking the plat books. Did I understand you to say that whenever he thought the canal company might desire a tract of land, he was at liberty to come into the land office and, himself, mark that tract on the plat book?—A. He was.

Q. And he did that?—A. He did it prior to the time that I took the office, and he did it after I took the office.

Q. And then the canal company went on and made further investigation, and made up its mind whether it wanted to take these lands, and then the lists were made out?—A. That is so.

Q. Whenever the canal company desired to indicate an intention of putting lands where nobody else could get them, and where no application could be made for them, Mr. Pumpelly went into the office and marked them off himself on the office records?—A. Yes.

Q. And thereupon you treated them as canal lands?—A. Yes.

Q. And held them out of market until such time as the canal company made up its mind as to whether it wanted to take these lands; is that so?—A. That is so; and I would say right here that I did not have a letter on the subject; but that, prior to my taking the office, the Commissioner of the General Land Office instructed the office to allow the canal company to do so.

Q. How do you know that?—A. That is what they said.

Q. Who said so?—A. The State agent, and I think my predecessor.

Q. Who was the State agent that told you so?—A. Mr. Avery.

Q. He is dead, is he?—A. Yes.

Q. Who was your predecessor that told you so?—A. Mr. Edwards.

Q. He is dead also, is he?—A. Yes, sir.

Q. Is there any record of that fact in the office?—A. No; the record was burned up.

Q. In there any such record in the General Land Office?—A. I do not know.

Q. Have you ever seen such a record or letter?—A. No, sir.

Q. Did you have any information of that kind, except what you derived through Edwards and Avery?—A. That is all, except that I saw it had been customary before I went into the office.

Q. Was this work done by Pumpelly under your direction at all?—A. No; he came in with his lists.

Q. And you let him take the books, and mark them up as he wanted; is that it?—A. Yes; that is about it.

Mr. PAYSON. It was by your permission rather then by your direction?

The WITNESS. Yes; by permission. I did not suppose there was any objection to it.

By Mr. REDINGTON:

Q. Did you ever allow any other human being on earth to do that, except Professor Pumpelly?—A. Yes; I think in the case of one railroad selection.

Q. What was that?—A. I think I allowed the Chicago and Northwestern people to do it. I do no understand any other way that they could ever do it.

Q. Who do you mean by "the Chicago and Northwestern people"?—A. I mean the State agent.

Q. Who was the State agent?—A. They had two.

Q. Who were they?—A. I think Mr. S. H. Selden, an engineer, was the first, and a man named Goodwin the last.

Q. And you think that you allowed these two men to do the same thing as you allowed Professor Pumpelly to do?—A. Yes.

Q. Did the Chicago and Northwestern people ever pay you for extra work while you were register?—A. They did not.

Q. In no amount?—A. No.

Q. Did you allow anybody else except the agent of the Chicago and Northwestern Company to come and mark up the books of the office in that way?—A. I do not know that I ever did; and yet all the lands have been marked up with pencil, or in some other way.

Q. Did you allow Professor Pumpelly to locate odd and even sections alike in that way?—A. Yes.

Q. He marked, indiscriminately, the even and the odd sections?—A. Yes.

Q. Were any even sections ever reserved there in any manner for the benefit of the canal company?—A. They took 50,000 acres in even sections.

Q. Were any lands on even sections ever reserved in that district for this canal company?

The WITNESS. Do you mean by withdrawal?

Mr. REDINGTON. Were any lands ever reserved in that district from even sections for the canal company?

The WITNESS. I do not know that I have got your question.

Q. Was there ever a withdrawal in that district for this canal company of even sections of land?—A. Not that I know.

Q. Then you allowed Professor Pumpelly to mark up (so far as even sections were concerned at any rate) lands which were in the market?—A. Yes, sir.

Q. And the canal company held them there without any selection?—A. Yes.

Q. About this 50,000-acre list. I understood you to say yesterday that after you had, at the instigation and request of Mr. Avery, prepared these deeds of relinquishment, you then forwarded that list, or gave the list to the State agent, approved or certified; is that so?—A. on reflection, my impression is that we did not approve it. I simply get that from letters which I have read.

Q. Then you desire to take back what you said yesterday with reference to having certified that list, after having got the release?—A. A good many things that I said yesterday, I could not say positively.

Q. Do you want to take that back?—A. I cannot say what I want to take back. My mind is not clear upon it.

Q. In other words, since yesterday your mind has been so changed in condition that what you swore to positively then you are now in doubt about; is that so?—A. I do not want to be understood that I swore to it positively yesterday.

Q. The record will show what you swore yesterday. What I want to know now is whether, after a night of reflection, your mind is in such condition that you desire to take anything of that back?—A. Not further than to correct it.

Q. How do you want to correct it?—A. That letter would imply that when the list came to the Department here it was not approved by the office at Marquette.

Q. How do you want to correct it—by saying that you did not certify that list?—A. We certified it sometime.

Q. Do you wish to correct the record by saying you did not certify that list for the company after you got the release executed by the governor; and do you want to change your testimony in that respect?—A. I cannot answer that question.

Q. Do you desire now to say that you did not certify that list to the canal company after you had obtained the release?—A. I should infer from the letter that we did not certify it the first time that it was presented.

Q. Do you desire to change what you said yesterday on that point?—A. I do not recollect just what I did say yesterday about it.

Q. Answer the question.—A. I would not want to say anything except what I thought was so.

Q. Do you desire to change your testimony of yesterday on that point? Suppose that it should turn out that you testified yesterday that after you had secured the release from the State, and from the railroad company to the United States, you said that you then certified the 50,000-acre list. Do you want to take anything of that back?—A. My impression is that was what was done.

Q. Do you want to take anything of that back?—A. I cannot say. My impression was yesterday that when the list was presented we certified it, and I think that that is what I said; but, on reading the letter over, in this history, I infer that the list had been presented here to the General Land Office, before our certification.

Mr. PAYSON. That is the inference you draw from the letter which you have read here?

The WITNESS. Yes.

By Mr. REDINGTON:

Q. I want to know what you have got to say about this thing now. What are you willing to swear to now about it?—A. I am in a good deal of doubt about it. I cannot answer positively.

Q. Were you solicited by Mr. Avery to obtain this release in order that the 50,000-acre list might be certified; is that so?—A. I cannot say whether it was the 50,000-acre list; but it was a list, and my impression was that it was the 50,000-acre list.

Q. Then, when you undertook to swear, and did swear, that you drew the release from the railroad company to the State, and from the State to the United States, that is true, is it?—A. Yes; of clear lands in the Ontonagon line.

Q. After that was done, did you not as register certify that list to the canal company?—A. I have no doubt that I did, but how soon afterwards I do not know. Of course the list was approved, and it must have been certified.

Q. If you testified yesterday that you did certify it, do you desire to change that testimony?—A. No; I do not desire to change it otherwise than that I may have said it was certified at a time when it was not certified.

Q. Do you understand that the record of yesterday is to stand, except that you are now in doubt as to when you certified the list?—A. I cannot say whether I certified any list, unless I see it.

Mr. McCarter objected to the question, saying that the witness could not know what the record contained.

The WITNESS. I do not get it very clearly into my mind. Of course I meant to say that we certified all the lists. We must have done that, otherwise they would not have been got through.

By Mr. REDINGTON:

Q. Do I understand that the record of yesterday is to stand, except that you are now in doubt as to when you certified the list?—A. I do not know that I said yesterday any time when we did certify lists.

Question repeated.—A. I should say yes to it.

Q. You say that before you came into the office your predecessor or predecessors in office had allowed entries of lands within the limits of the Ontonagon and State Line grant?—A. That is what I understood.

Q. You testified as a matter of fact a few minutes ago that that was so. Do you still say it was so?—A. On even sections.

Q. Do you mean to confine yourself entirely to even sections?—A. I do not know that any odd sections were entered.

Q. You do not mean to say that any entries of odd sections within the limits of this railroad grant were ever allowed by any of your predecessors? That is right, is it?—A. That is right.

Q. Do you know how many even sections were allowed to be entered?—A. I do not know the amount in acres.

Q. Nor by whom entered?—A. I think there was one entry by a man named Culbertson.

Q. Do you recollect anybody else who entered?—A. I do not.

Q. You say that up to the receipt of what is termed the Bagley list in 1873, you had allowed very few entries of land, or that a very small amount of land had been entered within the limits of this grant?—A. That is as I recollect it.

Q. Do you call 4,905 acres a very small quantity of land?—A. I would not call it a very large amount up there.

Q. Then when you say that very few lands were entered, you consider 4,905 acres a small quantity?—A. Yes; I should not consider it a large quantity. I have had parties make applications for from 20,000 to 25,000 acres in a day.

Q. Within the limits of that grant?—A. No; within the district.

Q. With reference to the odd sections within the limit of this grant, do you consider 5,000 acres of land a very small quantity?—A. I should not call it a large quantity.

Q. This Anthony list you allowed, did you not?—A. Yes.

Q. You did not mean to say, in anything drawn out by the examination of Mr. Davis, that you did not allow that list?—A. No, sir.

Q. Had Mr. Buell any connection at all with the canal company at the time that he made this application to you at 9 o'clock at night?—A. No; not that I am aware of.

Q. You are not aware that at that time he was the agent of the canal company, hunting up timber trespassers?—A. I was not. Mr. Buell told me at one time (I do not think it was at that time) that he was in some way connected with the canal company doing some work for it. I do not know whether it was looking up good lands.

Mr. PAYSON. But, so far as the entries made on the night when he came to your office were concerned, he did not assume that he was making them for the canal company, did he?

The WITNESS. No, sir.

By Mr. REDINGTON:

Q. Did anybody else in the interest of the canal company have the right to go into your office, and have the privilege of marking off plats on the plat books?—A. I do not know.

Q. Did Mr. Longyear ever do it?—A. Longyear had nothing to do with the canal company during my administration.

Q. What was Longyear's business?—A. I think he was what is called up there an explorer.

Q. Did he ever on his own account mark off tracts of land?—A. Not that I know of.

Q. You never gave him permission to do so?—A. No, sir.

Q. And you do not know that he ever did so?—A. No, sir.

Mr. PAYSON. It was stated in the investigation before this committee of the Ontonagon and Brulé River grant (as the claim of the cash entry men there to a validation of their entries) that they would come into the land office in Marquette and, prior to making entries, would inquire what lands were subject to entry, and that occasionally maps would be furnished to them indicating what lands were subject to entry, and what were not. I ask you whether or not that is true?

The WITNESS. Yes; that is true.

Mr. PAYSON. And from those maps or plats thus purchased they would make explorations, and would subsequently apply for entries; is that so?—A. Yes, sir; that has always been the usual practice. Woodsmen send and get diagrams of the original plats, showing vacant lands, and then they go into the woods and make examinations and come to the office and locate lands. And after the receipt of the Bagley list, the plats were made up in reference to that list.

By Mr. DAVIS:

Q. What is the object of withdrawing public lands?—A. To give to the land-grant corporations the opportunity to make selections.

Q. And that withdrawal takes from public sale, or from private sale, all the lands within the territory designated as within the withdrawal notice?—A. Yes, sir.

Q. If these lands in the Upper Peninsula were withdrawn for the canal company, what difference did it make whether Professor Pumpelly or the State agent went in there and marked on the plat books this tract or that tract as lands which the canal company would be likely to take? What difference did it make?—A. I do not know.

Q. Did it prejudice anybody's rights?—A. Not that I am aware of.

Q. Was there any other way to select lands?—A. I do not know of any other.

Q. Was that the customary way of doing it in land-grant companies when there was a withdrawal?—A. Yes; so far as I know anything about it.

Q. Would you have done the same thing by any other land-grant company?—A. I should, of course. I supposed that that was the usual way of doing it.

Q. Now, about the even sections. The canal company had a right to take 50,000 acres in even sections, had it not?—A. Yes.

Q. If the canal company wanted to select its lands, its agent went to the land office, and marked those lands with a C?—A. Yes.

Q. The canal company had a right to do that, had it not?—A. Yes.

Q. Did the canal company select its lands in that way in the even sections?—A. Of course. There was no other way for it to select them.

Q. You say that you certified to a 50,000-acre list of lands, after you made a release of the clear lands. What list of 50,000 acres of land did you certify, or did you fail to certify, after you had made the release of clear lands?—A. The list of the Portage Lake Canal Company.

Q. Where is it?—A. I cannot tell.

Q. Where were the lands?—A. I cannot tell.

Q. Look at page 22 of the Canal History, already in evidence, being

the letter from Commissioner Wilson to P. J. Avery, and state to the committee whether you are not mistaken about the 50,000-acre list, and whether that list was not in the Marquette and State Line road two years before the release of the clear lands of the Ontonagon and State Line road was executed?—A. I have looked at that letter, and, as I stated yesterday to the committee, my impression was that that is the same list of lands I had reference to. My impression was yesterday that it fell within the Ontonagon and branch lines. But, from something in this letter, I have come to the conclusion that, so far as that was concerned, I may be mistaken.

Q. Then you did not certify any 50,000-acre list after you had made a release of those clear lands of the Ontonagon and State Line road?—A. Not of that amount, as I recollect.

Q. Do you know any other list of lands? Where is there any other list?—A. I do not know how many lists there were in the canal company's grant, before they were completed—some 8 or 10 or more.

Q. Is it or is it not a fact that in your testimony yesterday about certifying the 50,000 acres of land to the canal company, after the State had made a release of the clear lands, you were not mistaken?—A. If there is any other list of that amount, I of course may be mistaken.

Mr. PAYSON. Let me see if I understand you. After the release was made by the railroad company to the State, and by the State to the United States, of the clear lands of the Ontonagon grant, a selection was made of some lands by the canal company within those limits; is that right?

The WITNESS. Yes, sir.

Mr. PAYSON. That list (whatever the grant was) you did certify, as you recollect?

The WITNESS. Yes, sir.

Mr. PAYSON. And that is all that there is about it?—A. That is all.

By Mr. REDINGTON:

Q. Was there not a list in the office at a time before the release which was afterwards certified, and is not that the list which you are now talking about?—A. That is my impression.

Q. Now take the Canal History, and look at page 11, at list No. 3, which is certified by you on the 27th day of March, 1871, and which contains 50,374.39 acres.—A. (After looking at it.) I should say that this is the list I have been having reference to.

Mr. Redington offered the list in evidence.

Q. I want to have no misunderstanding about how this marking was done by Professor Pumpelly. I understand you to say that he went into that office and marked off on the plats any lands that he chose to mark, whether they were lands which the canal company intended to take finally or not, and that after he had so marked off in a preliminary way all that he desired to mark, the canal company then made up from the lists so marked up such lands as it wanted to take?—A. Yes.

Q. And I understand that there was no restriction whatever upon his doing the same thing in respect to even sections. Is that so?—A. That is the way I understood it.

Q. And that he did so mark off the even sections and the odd sections indiscriminately; is that so?—A. Yes. He would spend days and weeks examining the records and looking over them.

By Mr. DAVIS:

Q. About this release. Mr. Redington has referred to it several times as a release executed at the request of the old canal company.

Did anybody else request you to draw that release of the canal lands?—A. Yes; the Chicago and Northwestern people were very anxious about it. In fact it was at their instigation more than anybody else's that I did do it.

Q. What you did about it was that you sent to the Department for forms?—A. Yes.

Q. And the Department sent you forms of the deeds?—A. They sent the blanks.

Q. And what did you do?—A. Filled up the blanks.

Q. With descriptions of the lands?—A. Yes, sir.

Q. That was all you did?—A. Yes.

By Mr. REDINGTON:

Q. So far as your testimony conflicts with what you testified yesterday, you want to take that back?

(Objected to and objection sustained.)

Q. Who, connected with the Chicago and Northwestern Company, ever said anything to you about it?—A. Their land agent.

Q. Who was he?—A. Mr. Goodwin.

Q. Where did he live?—A. Chicago.

Q. What was his full name?—A. James P. Goodwin, I think. He was the land agent of the Chicago and Northwestern Railroad.

Q. And he requested you to do it?—A. Yes.

Q. Why?—A. They were very anxious to get their lands. The Commissioner had ruled that they could not take the lands on their new route until the lands on the other route were released.

Mr. PAYSON. Their new route was toward the mouth of the Menominee River?

The WITNESS. Yes.

The committee here took a recess until 2 o'clock.

After the recess JOHN A SIBBALD was sworn and examined as follows:

By Mr. REDINGTON:

Question. State your residence, occupation, and profession.—Answer. I reside in the city of Washington; my profession is land and mining attorney.

Q. Were you at one time connected with the General Land Office in this city, and if so for how long?—A. I was connected with the General Land Office from the 2d of April, 1877, to the 30th of April, 1881.

Q. When so employed what, in particular, were your duties?—A. I was employed in the posting and examination of entries in the public land division.

Q. Was your employment such as to enable you to become thoroughly conversant with the machinery of entering and posting all returns of the local land offices to the General Land Office and with the machinery in which the books of the General Land Office are kept?—A. Yes.

Q. With reference to the records of the local land offices, what do the tract books in the General Land Office contain?—A. They contain every entry made at the local office and filings under the pre-emption law.

Q. How are the tract books in the General Land Office made up?—A. They are subdivided into townships, and about two or three sections put to each page.

Q. From what information are the entries made on the tract books in the General Land Office?—A. From the abstracts of entries and from the papers in the original entries forwarded by the registers and receivers of the local land offices.

Q. How often are those abstracts forwarded?—A. Once each month—at the end of the month.

Q. And on their receipt the transactions are posted on the tract books of the General Land Office?—A. Yes.

Q. So that, theoretically at least, the tract books in the General Land Office are duplicates of the tract books in any particular local office?—A. Yes.

Q. State to the committee whether you have recently examined the tract books in the General Land Office in connection with locations made in satisfaction of the two grants made to the Portage Lake and Lake Superior Canal Company, and if so how you examined them. State in detail what you did in connection with that matter.—A. First we took all the townships outside of the railroad limits (the lists of these townships) and we examined them in regular order, commencing on the east side and going west with each row of townships. I held what is called the small township plats or diagrams. Each diagram had 36 sections numbered in the usual manner from 1 to 36. In connection with a gentleman who assisted me I noted on those diagrams what he called from the tract books. He called each day every entry that was made, and I noted, not the names, but the year that the entry was made.

Q. I understand that you made that examination of the tract books so far as the land lay outside of certain railroad limits?—A. Yes.

Q. What railroad limits?—A. The Marquette, Houghton and Ontonagon Line and the Ontonagon and State Line, or Brulé River grant.

Q. The memorandum or abstract that you made on these township plats represents the condition of any particular township as to the status of the land at some particular date?—A. Yes.

Q. What date was it?—A. October, 1868.

Q. In regard to the selections made by the canal company in satisfaction of its grants, what is the position of that date; was that date the date of the first selection made by the canal company?—A. Yes; that was the first date.

Q. Then the result of your examination shows the condition of the public lands in the townships in that vicinity as they existed on the 1st of October, 1868, outside of the railroad limits of the Marquette, Houghton and Ontonagon Line, and the Ontonagon and State Line?—A. Yes.

Q. After the diagrams or memoranda were made what further, if anything, did you do in that connection?—A. We made a map commencing with range 26 or 27 east, and extending to the western limits of the Upper Peninsula.

Q. Have you that map?—A. Yes.

(The witness here unrolled and hung up for observation a map of the territory referred to, on which townships were marked in various colors.)

Q. If I understand you, you made that map from the memoranda which you thus took?—A. Yes; in connection with a gentleman who assisted me.

Q. What do the tracts colored in green on that map indicate?—A. They represent the selections under the act of March, 1865.

Q. That is the first grant made to the canal company?—A. Yes.

Q. From what list or memoranda did you put these tracts on the map?—A. From the list contained in the book.

Q. You mean from what we call the McCarter record?—A. Yes.

Q. I understand you that the tracts colored green on that map are

the lands selected by the canal company under its first grant?—A. Yes; under the act of March 3, 1865.

Q. What are the tracts that are colored red on the map?—A. These are the lands that were vacant in October, 1868, as shown by the tract books of the General Land Office.

Q. Before the first selections were made by the canal company?—A. Yes.

Q. What is that irregular green line on the lower part of the map?—A. It is the 20-mile limits of the Marquette and Ontonagon Road.

Q. What is the upper green line to the right?—A. The 20-mile limits of the same road.

Q. Going further to the right, what is the green line?—A. It represents the 20-mile limits of the same road.

Q. That portion of the map lying between these two lines represents, does it, the land originally included within the limits of the Marquette, Houghton and Ontonagon, and of the Ontonagon and State Line Railroad Company grants?—A. Yes.

Q. In making this map you left out of consideration, did you, all the lands lying within the limits of those two grants?—A. Yes.

Q. So that if there existed any vacant lands within those limits, they are not shown at all on your map?—A. I think not. Those limits are taken from a map made in the General Land Office, and supposed to be substantially correct. I know of no errors in it.

Q. What are the lavender-colored tracts on the lower end of the map—what do they designate?—A. They represent the selections under the act of July, 1866.

Q. Does that map show all the selections under the act of 1866?—A. No, sir.

Q. Your map, as I understand it, only extends far enough east and south to show a portion of the selections under the act of 1866?—A. Yes, sir.

Q. It shows, however, all the selections under the act of 1865?—A. Yes.

Q. Explain to the committee what these two lines drawn in a semicircle in black pencil indicate—drawn across the green as well as the red.—A. They are drawn to show the distance from the canal from this point [indicating].

Q. How were they placed there? Is every point on each of these lines at the same distance from the canal?—A. They were drawn with a stick, I believe, or some piece of wood, so as to get the exact distance.

Mr. PAYSON. That line is the arc of a circle?

The WITNESS. Yes.

Mr. PAYSON. The center of which is the mouth of the canal?

The WITNESS. Yes.

By Mr. REDINGTON:

Q. With reference to these two lines, tell the committee how many acres of land selected under that first grant are farther from the canal than the lands which you found to be vacant.—A. The lands here outside of this line [indicating] were canal selections to the amount of 70,000 acres.

Q. What was the amount of the unappropriated vacant lands inside the circle at that time?—A. In round numbers about 103,000 acres were vacant in October, 1868.

Q. Then there were at the date of this selection over 100,000 acres of land vacant and unappropriated nearer to the location of the canal than

the 70,000 acres of land that were actually selected; is that the fact?—A. Yes.

Q. With reference to the inside line, give us the same information as you have given us with reference to the outside line.—A. There would be 80,000 acres more—or 78,000 acres—selected outside of the inside line.

Q. What are the tracts colored red in the upper portion of the map at the right hand side?—A. Those [indicating] were vacant lands in October, 1868.

Q. How much area of vacant lands was there there?—A. I do not know; I did not calculate it.

Q. Can you give any rough estimate about the amount?—A. Seven or eight thousand or acres.

Q. Have you got what are known as the common limits marked on that map?—A. Yes.

Q. Point them out.—A. No. The common limits are not marked on this map, but you can see from here [indicating] where they commence.

Q. Where is Ontonagon on that map?—A. At this point on Lake Superior [indicating].

Q. And where is the canal?—A. Up here at the top of the map [indicating.]

By Mr. DAVIS:

Q. That map shows the railroad limits of what companies?—A. Of the Marquette, Houghton and Ontonagon Road and of the Ontonagon, and State Line Road.

Q. Does it not show the railroad limits of the Marquette and State Line Road?—A. No, sir.

Q. Or of the Lac La Belle Company's grant?—A. No.

Q. Or of the Sault Ste. Marie Company's grant?—A. No, sir.

Q. Or the wagon-road lands?—A. No, sir.

Q. There were certain lands, were there not, in the State of Michigan exempt from entry on account of those grants?—A. Two ot the canal grants that you have mentioned were not within those limits.

Q. Is not the Lac La Belle grant within those limits?—A. Not so far as I remember. There may have been a withdrawal of the Lac La Belle grant, but I forget about it.

Q. If there were a withdrawal for the Lac La Belle Company to make its selections from, the Portage Lake Canal Company could not very well go into that district, could it?—A. I do not know.

Q. This map does not show the limits of the Lac La Belle Company's grant.—A. It does not show the withdrawal for either.

Q. Why did you not include on this map all these withdrawals?—A. I did not make a map of withdrawals.

Q. That map purports to show lands that were subject to private entry at the time the canal company took its lands?—A. Yes.

Q. It purports to show what lands were subject to private entry in the Ontonagon grant at the time the canal company made its selections?—A. It purports to show lands that were vacant, and subject to entry in October, 1868.

Q. Those lands marked red there are lands which you say were subject to private entry?—A. I say they were vacant.

Q. And that they could be taken by private entry?—A. No; I said that they were vacant in October, 1868.

Q. What do you mean by their being vacant?—A. Subject to entry.

Q. Subject to private entry?—A. No; subject to ordinary entry.

Q. What is ordinary entry?—A. Entry under the various laws of the United States.

Q. Is not that private entry?—A. No, sir.

Q. Then these lands were not subject to private entry?—A. They were vacant public lands on the tract books.

Q. And could have been taken by private entry?—A. I do not know; I cannot testify as to that.

Q. Then what is your map good for?—A. I am not here to state that.

Q. Do you want the committee to understand that these lands marked in red were subject to private entry in October, 1868?—A. I have answered that question. I said that they were vacant in October, 1868, and, as I understand it, subject to selection.

Q. They had not been withdrawn for any purpose?—A. I do not know whether they were withdrawn or not.

Q. How would they be subject to private entry if they were withdrawn?—A. I do not know. They were withdrawn for the canal company. They were within the limits of the canal company. There was a restoration there in April, 1868.

Q. Do you want the committee to understand that those lands shaded in red were subject to private entry in October, 1868, and could have been taken by the canal company?—A. That is my understanding—that they were vacant public lands.

Q. And could have been taken by the canal company under the act of 1865?—A. Yes.

Q. Do you know whether there was a reservation made for the Lac La Belle Company?—A. I believe so, but I do not recollect its limits.

Q. Do you know whether there was a reservation made for the Ontonagon and State Line Road?—A. Yes.

Q. Do you know where those limits went to?—A. Yes; they extended to the red line here [indicating].

Q. I read you from page 18 of the railroad history the withdrawal made for the Ontonagon and State Line Railroad Company: "All the lands in the district situated south of township 51, in range 20 to 31 inclusive"; where is that?—A. Here on the right-hand side of the map [indicating].

Q. [Reading.] "South of township 54, in ranges 37 and 38"; where is that?—A. Here [indicating on the map].

Q. "North of township 46, in ranges 39 and 40"?—A. Here [indicating].

Q. "North of township 48, in ranges 41 and 42"?—A. Here [indicating].

Q. All north of that is withdrawn?—A. Yes.

Q. On pages 5 and 6 of the Canal History is a letter from Mr. Commissioner Edmunds, dated July 14, 1866, instructing the register and receiver of the land office at Marquette to withhold from sale, &c., all of the odd numbered sections west of a line dividing ranges 15 and 16 west; where is that?—A. It is to the east of this map.

Q. What land did that take?—A. It took the lands described in the withdrawal.

Q. It took all westward to the State line. Then all that country was withdrawn?—A. Yes.

Q. All these limits are not shown on the map?—A. They could not be.

Q. Under that withdrawal all these red marked lands were taken out of market?—A. No.

Q. They were subject to selection under either canal grant.—A. I do

not understand that to take them out. They took them out from entry, but not from selection under either canal grant.

Q. Did it not withdraw these red lands from private entry?—A. Certainly. It withdrew all entries until the canal grant should be settled.

Q. Which canal grant?—A. Either one.

Q. What do you mean?—A. I mean either the Portage Lake or the Lac La Belle Canal grant.

Q. Where do you get any authority for saying that the Portage Lake Canal Company was interested in the withdrawal?—A. You asked my opinion.

Q. Did not that withdrawal take all these red lands out of market?—A. It took them out from private entry.

Q. And these limits are not shown on your map?—A. No withdrawal is shown on this map.

Q. If lands are withdrawn they are not subject to private entry, are they?—A. No, sir; not under the law.

Q. Does your map show mineral lands?—A. No. We left off all lands marked mineral.

Mr. PAYSON. That is, any lands shown as mineral lands in the Department are not covered on this map.

The WITNESS. The sections that are marked mineral are not considered as vacant at all.

By Mr. DAVIS:

Q. Do we understand that all this space between the green lines [indicating] were exempt from private entry and were yet vacant lands that could be taken by the canal company?—A. They were within the limits of a railroad grant and not subject to selection.

Q. And the only lands that were subject to selection in October, 1868, were lands outside of these green lines?—A. Yes.

Q. Referring to these lands here on Lake Superior at the northeast corner of this map marked red [indicating], which you testify were, in your judgment, liable to be taken at that time at private entry, do you know whether those lands were ever selected by the old canal company?—A. They had not been selected at that time.

Q. Do you know whether the old canal company selected any lands in there which were afterwards rejected because they were mineral lands?—A. No, sir; I do not.

Q. Do you know that the letter of the Commissioner of the General Land Office prohibited the canal company from going in there because the lands were lying between the granite and conglomerate, and were therefore not subject to private entry?—A. No, I know nothing about it.

Q. Do you know whether these lands do lie between the granite and conglomerate?—A. No, sir.

Q. And you simply found these lands apparently free in October, 1868, and marked them on this map as being lands which the canal company in your judgment could take?—A. Yes.

Q. These lands and a portion of the red lands marked below there [indicating] are lands which you contend are nearer to the canal than some of the lands that were selected west of these parallel lines [indicating]?—A. I do not contend so as to those north; but I do as to those south.

Q. How much nearer to the canal are they?—A. I have not made the calculation.

Q. Do you know they are nearer to the canal?—A. I know it of both lines.

Q. How much nearer?—A. I have told you that I do not know.

Q. But you are prepared to say that they are nearer to the canal?—A. I have stated that.

Q. Can the distance be ascertained?—A. Yes.

Q. Will you ascertain it?—A. No; I cannot make an examination, for I have not materials here to measure the distance.

Q. On what authority do you testify that they are nearer to the canal?—A. The measurement has been made.

Q. Did you make the measurement?—A. No, but I saw it done. I was present at the time it was made.

Q. How did you measure it—by a stick?—A. Yes, sir.

Q. How much nearer were these lands?—A. I told you that I did not know, and I do not like to be asked the same question several times. You can measure it yourself.

Mr. DAVIS. I have no means of measuring it.

The WITNESS. Nor I either.

Q. From your personal knowledge will you swear that these lands are nearer to the canal than the lands that were selected?—A. I believe so. I saw the measurement made and I believe it was made correctly.

Q. You saw it made with a stick?—A. Yes.

Q. Are the lands that are colored in red even sections or odd sections?—A. They are odd sections.

Q. You say that this map was made with reference to the date of October, 1868?—A. Yes.

Q. When lands are selected at the land office at Marquette, do you know that lists of them are sent to the General Land Office?—A. The lists are on file there.

Q. Where did the canal company go to enter these lands?—A. The selections were made at the Marquette office.

Q. Can you tell the committee whether, in your experience as clerk in the land office, selections are not very frequently made a year, or two years, or three years before the lists are finally confirmed at the General Land Office?—A. I do not know.

Q. Are you prepared to tell the committee whether these lands that were selected by the canal company under the act of 1865 were selected at the Marquette land office?—A. I have no evidence of it except certificates of the register and receiver.

Q. Is your information as to when they were selected made up from the time when the lists were approved in the General Land Office?—A. I tis taken from that exhibit.

Q. What is the date of the approval in the General Land Office?—A. October, 1868.

Q. Is there any certificate of the register and receiver in reference to lands selected by the canal company under the first grant, published in any of the documents offered in evidence in this case?—A. They are usually attached to the lists. They should be there. I only see one there.

Q. Referring to the lists of selections made by the canal company under the first grant published in the book called the McCarter record, please examine the lists certifying 192,049 93-100 acres, and state whether there is any certificate from the register and receiver at the Marquette land office showing when the lands were selected?—A. [Looking at the books.] No, there is not to this list.

Q. Is it not true that your map is made from the date of the approval of the lands by the General Land Office and not from the date

when the lands were selected?—A. No, sir. It is made from the 1st of October. That list was approved on the 30th of October.

Q. Are you prepared to say that the lands were not selected by the canal company long before that?—A. No, sir.

Q. You depended upon the time of their approval by the Secretary of the Interior?—A. I depended upon that list of October, 1868.

Q. That was the time at which the list was approved by the Secretary of the Interior. And this list from which you made the map shows simply the date at which it was approved in the General Land Office?—A. Yes.

Q. And does not show the date at which the lands were selected at Marquette?—A. It appears not.

Q. I have forgotten whether you say that the lands shaded red were liable to be taken by the canal company?—A. Yes, they were vacant at that time.

Q. And liable to be taken by the canal company?—A. Yes.

Q. So far as you know?—A. Yes.

Q. You do not know whether they were designated as mineral lands?—A. Any mineral lands marked so on the tract books are not included here.

Q. You do not know whether these lands were designated or rejected by the Commissioner of the Land Office as being mineral lands which the canal company could not take?—A. No. I would like to state here that the Commissioner's orders as I understand them except from selection all lands that are marked on the tract books as mineral.

Q. I will read you from page 4 of the Canal History:

The sectional map accompanying your letter of 4th of April, 1865, of Keweenaw Point from township No. 52 N., R. 36 W., in a northeasterly direction to Lake Superior, may be taken as a guide in future operations south of town 52. You will not allow locations nearer than three to four miles of the mineral ranges as laid down on said map. You will not forget that all odd numbered sections in your district north of town 40 N. and west of range 21, were withdrawn from market by order of May 26, 1865, and hence not subject to entry, location, or claim till regularly restored to market. Applications for agricultural scrip locations of the above class of lands, prior to the withdrawal, will be held as valid if free from other conflicting rights and outside of mineral ranges or formations. Locations which have been made within such formations will be held in suspense at present, that parties may have further time to submit proof as to the non-mineral character of the land located, or they will at once be canceled at the request of the parties in interest

Did you know anything about that letter when you made this map?—A. No.

Q. You did not make the map in reference to this letter at all?—A. No, sir.

Q. Who assisted you in making the examination?—A. Mr. Mullaly.

Q. Who is Mr. Mullaly?—A. He is a gentleman who is here.

Q. Is he a clerk in Mr. Redington's office?—A. No, sir.

Q. What is his business?—A. I have heard that he has been a clerk in the land office at Marquette.

Q. What is his business now?—A. I don't know.

Q. Have you appeard as counsel for the Ontonagon and Brulé River people in their land matters here?—A. Only before the Department.

Q. You have done some work for them?—A. Yes, sir.

Q. Are you engaged by them now?—A. I suppose that I am the attorney of record at the Department, although I have not done anything for them for several months.

Q. Did you file a brief before any committee of Congress in reference to the Brulé and Ontonagon River grant?—A. No, sir. I did not file

one. I published one for the information of Congress a year and a half ago.

Q. In whose interest?—A. In the interest of my clients for additional homesteads.

Q. About lands within the limits of this grant?—A. No; not within the limits of the Ontonagon grant. It may have been on even sections; there are no odd sections within the limits of the grant.

By Mr. REDINGTON:

Q. You have been referred to several withdrawals said to have been made for the Lac La Belle Company. I call your attention to the letter which will be found on page 3 of the Canal History, addressed by the Commissioner of the General Land Office to the register and receiver at Marquette, dated May 26, 1865, from which I will read an extract:

Letters have been received by this Department from Governor Crapo and H. Barnes, of Michigan, requesting that all of the vacant odd numbered sections in your district be withdrawn from market, till the grant in aid of the construction of a harbor and ship canal at Portage Lake, Kewenaw Point, Lake Superior, can be adjusted.

Is that the canal in controversy that is mentioned in this letter?—A. Yes, sir.

Q. (Continuing to read:)

The Secretary of the Interior has authorized the withdrawal of a sufficient body of lands in that locality, to insure the ultimate selection of the full quantity of land granted for said harbor and ship canal. You are therefore directed to withdraw from sale, location, or claim, all of the vacant odd numbered sections and parts of sections in your district, west of range 21 and north of township 40, until further advised by this office.

Please point out where that tract of country lies.—A. It would be north of the line at the bottom of the map.

Q. Then it included all the odd numbered sections in the Northern Peninsula north of the point shown on that map?—A. Yes, not otherwise appropriated.

Q. That was on May 26, 1865?—A. That is my recollection of the date.

Mr. Redington offered the letter in evidence.

Q. You were asked questions in reference to a subsequent withdrawal for the Lac La Belle Company, and a letter dated July 14, 1866, was read to you. State whether or not it covered in its terms, in whole or in part, the same lands that had previously been withdrawn for the Portage Lake Company?—A. My recollection is that it covered the same territory and (in addition) from the line between 15 and 16 west to 21 west.

Q. It went farther east than is shown on this map?—A. Yes.

Q. Then the second withdrawal for the Lac La Belle Company included the lands already withdrawn for the Portage Lake Canal Company and some lands farther to the east?—A. Yes, that is my recollection.

Q. So that the first withdrawal made for either the Lac La Belle Company or the Portage Lake C mpany was made for the Portage Lake Company, and included all the odd sections shown on that map either by red or green marks, did it not?—A. Yes, sir.

Q. Mr. Davis asked you whether, in view of the withdrawal made for the Lac La Belle Company in 1866, the sections colored red on that map were not withdrawn from private entry. I desire to ask you whether, if that be true as to the red colored sections, it would not also be true as to all the green ones?—A. Yes; they are all the same class of lands.

Q. If it is true as to one of them, it is true as to both of them?—A. Yes.

Q. Are any of these lands up here in the right-hand corner of the map [indicating] marked red, near Lake Superior, shown on the records of the General Land Office to be mineral lands?—A. None of them are shown to be mineral lands.

Q. So far as the tract books of the General Land Office are concerned those lands are not marked as mineral to this day, are they?—A. No, sir. We intended to exclude all the lands marked mineral.

Q. With reference to the date at which you made these computations state whether you ascertained in any way the date of the approval of these lists under the first grant by the register and receiver. Was it shown on any book that you had, or on any papers?—A. No; not that I recollect.

Q. What, in amount, was the first selection that was approved?—A. 192,000 acres.

Q. And the second selection was for the balance of the 200,000 acres?—A. Yes.

Q. You made these computations as of about the date when the first selection appeared on the books of the General Land Office?—A. Yes, sir.

Q. Are there any lands colored red on that map which were reserved for any purpose at the date of the Portage Lake grant (the first grant) and which were restored to market between the date of that grant and the 1st of October, 1868? Were the status and condition of that land exactly the same from the date of the original grant up to 1868?—A. This map shows the lands which were vacant at that time. If they had been entered before, or were reserved for any purpose, they were not maked as vacant on this map.

Q. Then, according to the records in the General Land Office, the status and position of these lands were the same all the way from the date of the first original grant to the Portage Lake Canal up to the time when you made the computation?—A. Yes.

MICHAEL V. MULLALY sworn and examined.

By Mr. REDINGTON:

Question. Where is your residence?—Answer. Marquette.

Q. How long have you lived there?—A. Since May, 1868.

Q. What is your present employment?—A. I am clerk in the United States land office at Marquette.

Q. How long have you been so employed?—A. Since the latter part of April, 1880.

Q. Since the latter part of April, 1880, up to the present time you have been clerk in the United States land office there?—A. Yes, sir.

Q. What are your duties in that land office principally?—A. I am employed as a draftsman, making plats and diagrams, and such work.

Q. Has your employment there been such as to make you conversant with the records and books in that office?—A. Yes, sir.

Q. Please state what the tract books of that land office show in reference to the limits of the Ontonagon and State Line railroad grant.—A. They show the 6-mile limits.

Mr. McCarter objected to the attempt to prove the contents of the book by parol evidence.

After argument, Mr. Redington made the following proffer of evidence:

I propose to prove by this witness that the tract books in the Marquette land office show the 6-mile limits of the Ontonagon and State Line Railroad grant, extending from Ontonagon to the State line, and that the contents of said books show to this day a continuous reservation of all the lands within those limits, from 1856 to the present time.

I also propose to prove by this witness that a similar state of facts is shown by the plats of the Marquette land office, and the proposition to prove the fact in question by the testimony of this witness is based upon the physical impossibility of producing twenty-six volumes from the records of that office, or making complete and perfect certified copies of the same. The witness is a clerk in the register's office at Marquette, and has been since the year 1880, and he has testified that he is conversant with the contents of the book in question.

Mr. Payson announced the decision of the committee as follows:

The subcommittee is of opinion unanimously that the offer to make this proof by parol, as against the objection of the attorneys for the canal company, is incompetent under the rules of law, the question being asserted to be a vital one, and no offer being made to show, by any exemplification of any of the records, any of the entries with reference to any of the local subdivisions of the lands comprised within these limits. The subcommittee therefore sustains the objection.

By Mr. REDINGTON:

Q. Do the tract books in the Marquette land office show what lands are included within the limits of the Ontonagon and State Line Railroad grant?

(A like objection was made and sustained.)

Q. Are there any books in the United States land office at Marquette showing the limits of the Ontonagon and Brulé River Railroad grant?

(Objected to and objection overruled.)

A. Yes, sir; the 6-mile limits.

Q. What books show them?—A. The plat books.

Q. Do the tract books show them?—A. No; the tract books show the descriptions. They cannot show the limits.

Q. Tell the committee what part you took in the preparation of this map presented by the last witness. Tell the committee what examinations, if any, you made in the General Land Office, and with whom you made them, and how this map was prepared.—A. I made them with Mr. Sibbalds. I called out the description of the lands and he put the description on a small diagram.

Q. You examined the tract books for that purpose?—A. Yes. We examined them in regard to all odd sections, outside of all railroad limits, under the act of 1865.

Q. I understand that you and Mr. Sibbalds examined the tract books of the General Land Office, you taking the tract books, and Mr. Sibbalds taking the small township plats?—A. Yes, sir.

Q. You read off to him from an inspection of the tract books, and stated to him the status of the lands at a particular date?—A. Yes.

Q. And he put them on a small plat which he was holding in his hand?—A. Yes, sir.

Q. After you had completed that work from the tract books in the General Land Office, did you then prepare this map?—A. Yes.

Q. What do the sections colored green on that map show?—A. They show the lands selected by the canal company under the act of 1865.

Q. Did you hear Mr. Sibbalds testify in reference to the preparation of this map?—A. Yes.

Q. State whether his testimony correctly stated what was done in the preparation of the map and the examinations.—A. I agree with Mr. Sibbalds in reference to the preparation of the map, and everything of that kind.

Q. Tell the committee what these two lines drawn in black pencil across the red and green sections, forming the arc of a circle, were intended for?—A. They denote the relative positions of the vacant Government lands, in October, 1868, in relation to the lands selected by the canal company.

Q. In relation to the outer one of those two lines (the southwest line) how much of the area did you find to be nearer the location of the canal (the lands colored red) than the lands that were actually selected (the lands colored green)?—A. My figures were the same as Mr. Sibbalds', or very nearly so. They did not differ a thousand acres.

By Mr. DAVIS:

Q. Who made those black lines on the map?—A. I happened to make them myself.

Q. Did you draw them?—A. Yes, sir.

Q. Do you want the committee to understand that north and east of the western black line of lands, shaded red, there were 60,000 acres subject to private entry in 1868, which are nearer to the line of canal than the lands shaded green, west of the black line?—A. I did not say they were subject to private entry. I said they were vacant lands, as shown by the tract books.

Q. Do you know whether or not they were subject to private entry?

(Objected to by Mr. Redington, as being a question of law.)

Q. What do you mean when you say that those lands, as shown by the tract books, are vacant lands?—A. I mean that they were never sold, or never selected under any grant.

Q. Can you tell us by the tract books whether the lands marked red were subject to private entry in 1868?

(Objected to by Mr. Redington, and objection overruled.)

A. I suppose they were; I will not swear that they were.

Q. Do the tract books show whether those lands shaded red were subject to private entry in October, 1868?—A. I cannot answer yes or no. I did not examine them in that view. I examined them to see whether they were vacant lands.

Q. Do you know whether the tract books show it or not?—A. I have told you twice already that I did not know whether the tract books did or not.

Q. And you do not know whether they do or not? Did you make a careful and critical examination of the tract books?—A. We did.

Q. You have sworn that there were 76,000 acres of those lands (shaded red) that were nearer to the canal than those shaded green. How do you know that?—A. From measurement.

Q. What did you measure it with?—A. With a stick.

Q. How did you do it?—A. In the same manner as a draftsman makes a circle with a stick.

Q. How much nearer the canal are those lands shaded red down in township 44, 38, than the lands that are in township 47, 44?—A. I did not reckon it to see how much nearer it was.

Q. You took a stick and measured it, did you?—A. Yes; I measured these lines.

Q. To where you supposed the canal is?—A. Yes, sir.

Q. And then you added up all the acres shaded red, which, according to the stick, were nearer to the canal?—A. Yes.

Q. Look at the map north of the lake called Gogebic. There is quite a territory of white map through there, is there not—in township 49, 42, and 48, 44? There were no vacant lands in there, were there?—A. Only what you see there.

Q. This white space of territory that I have described indicates that there were no vacant lands there at that time?—A. It indicates that they were not vacant.

Q. If you commenced the location of lands in that district in township 50, 42, and took all of the vacant lands as you went along, could you get down into township south of 48 without passing over a lot of territory in which there were no vacant lands?—A. You would not strike any vacant lands until you got down here [indicating on the map].

Q. Then, with that manner of selection, there would be a strip of country standing east of the line of 49, 42, and running to the west of line 48, 43—country where the lands had been all entered—would there not?—A. Yes; as I understand it.

Q. And as you proceeded west through 48, 42, if you were entering lands in 49, 44, before you got to the south part of 48, 44, you would likewise have to pass through a strip of country from 6 to 12 miles wide in which there were no vacant lands, would you not?—A. You would strike them right there [indicating].

Q. There would be a territory of 6 miles wide in which there would be no vacant lands?—A. No; not 6 miles wide, but 1 mile wide.

Q. Who employed you to make this map?—A. Mr. Redington.

Q. Do you live in Marquette?—A. I do.

Q. When did you come here?—A. Two week ago last Sunday night.

Q. How did you happen to come here?—A. I was subpœnaed as a witness in this case.

Q. Who is the register of the land office at Marquette now?—A. Varnum D. Cochrane.

Q. And you are a clerk in his office?—A. Yes.

By Mr. REDINGTON:

Q. In going over the tract books, and making your notations on these little plats, you left out all mineral lands, did you not?—A. Yes.

Q. And all swamp lands?—A. Yes.

Q. And all school lands?—A. We noted them on the little plat, but did not carry them out on the big map.

Q. Any tracts of land there which appear white were either sold or disposed of by the United States, or were mineral lands, or belonged to the State under school grants, or had been disposed of in some other way?—A. Yes.

Q. With reference to this white strip here [indicating] referred to by Mr. Davis, do you know the character of the land?—A. Not from personal observation; I have an idea; that is all.

Q. Do you know from inspection of the records in the office, either at Marquette or in Washington, what the character of those lands is?—A. I do not. They are supposed to be mineral lands.

Q. You were asked by Mr. Davis a number of times whether the tract books showed these sections, colored red, to be subject to private entry. If the tract books show these sections, colored red, not to be subject to private entry, do they not show the same thing in reference to all of the sections colored green?—A. Yes.

Mr. DAVIS. How do you know that?

The WITNESS. Because I reviewed some of them.

Mr. PAYSON (to Mr. Davis). Will there be any dispute on your side but that the status of the lands marked green is precisely the same (as between the Government and the citizen) as that of the lands marked red?

Mr. DAVIS. Yes sir; there will be.

Mr. PAYSON (to the witness). All this white territory as shown in the map was not liable to be taken by this grant?

The WITNESS. It was supposed not to be.

Mr. PAYSON. This white territory, shown on the map, is the territory in which the canal company was not entitled to go to enter its lands?

Mr. REDINGTON. That is a question of law. We say that they were within railroad limits.

By Mr. DAVIS:

Q. Dou you know anything about these lands up here near Keweenaw Bay, in township 51, which are marked red; do you know whether they are mineral or not?—A. They are not shown to be mineral by the books of the General Land Office.

Q. By that you mean that they were not marked under Foster and Whitney's report, and reserved as mineral lands?—A. They were not marked with the letter M on the tract books, by which mineral lands are designated.

Q. Do you know what lands are designated with the letter M?—A. That letter stands for "mineral."

Q. Do you know under what authority?—A. No.

Q. Do you know anything about the Foster and Whitney business?—A. I do not.

Q. And whether they were reserved by the Commissioner for other reasons than being mineral lands, you do not know?—A. No, sir.

Q. You simply know they were not marked with the letter M?—A. Yes, sir.

By Mr. REDINGTON:

Q. Is that the customary way of marking tracts in mineral lands?—A. Yes, with the letter M, in red ink, at the head of each section in the tract book.

JOHN L. BUELL sworn and examined.

By Mr. REDINGTON.

Question. Where do you reside?—Answer. In Quinnesee, Menominee County, Michigan.

Q. How long have you resided there?—A. I have lived in Menominee County since the fall of 1866.

Q. What has been your business principally since the fall of 1866?—A. For the first three years I was in the lumber business. Since that time I have been engaged in the exploration of iron lands, and in cruising for pine timber, until within the last year, since which time I have been in other business.

Q. State whether or not during the year 1871 you had any contract with the Portage Lake Canal Company, with reference to the location of any lands?—A. I did.

Q. State under what circumstances that contract came to be made, and, if you have the contract, produce it.—A. Here is the contract [producing it].

The contract was put in evidence, and is as follows:

This agreement, made and entered into this 14th day of September, A. D., 1871 at Marquette, Michigan, by and between John L. Buell, of Menominee County, Michigan, party of the first part, and the Portage Lake and Lake Superior Ship-Canal Company, party of the second part,—witnesseth:

That the party of the first part agrees to, and does herein and hereby, give and furnish to the party of the second part, the description of seven thousand two hundred and twenty-four and $\frac{17}{100}$ acres of land, more or less, on the Menominee River, and its tributaries in Menominee County, State of Michigan, according to the following named minutes or descriptions of the said lands.

[Here follow the descriptions.]

Which said descriptions, the party of the first part believes, includes all of the best pine lands now unentered in the townships and ranges as named, and party of the first part furthermore believes that said lands or all of them are good, pine, hard-wood, or mineral lands, but does not guarantee the whole of them; and furthermore party of the first part represents the said lands to be composed almost entirely of the lands entered by sundry parties during the months of June and July, A. D. 1871, which said sale of lands has been canceled.

The party of the second part agree on their part that, in consideration of the minutes or descriptions furnished by the party of the first part, they will file said descriptions of said lands in the Marquette land office this 14th day of September, A. D. 1871, and will make all legal and proper efforts to secure the title to said lands, or such portion of the same as may be vacant at the date of their filing the descriptions for entry, to wit, on the 14th September, as aforesaid.

And that when said title to said lands, or any portion of them, shall have been perfected in them, they will make and execute a good and sufficient warranty deed of three hundred and twenty acres of said lands to the party of the first part within six months after the date upon which the title to said land, or any part of the same, shall have been perfected in the party of the second part; they further agree that the party of the first part may make his own selections of the three hundred and twenty acres out of all the lands included within the said descriptions, the title to which may be secured as aforesaid by the party of the second part, excepting and reserving that, if the party of the first part selects mineral lands, the party of the second part will be entitled to reserve an undivided one-half interest in all minerals found or existing on said lands selected by the party of the first part. The party of the second part agree to give the party of the first part three months' notice in which to to make his selections, and said notice is to be given in writing within thirty days after the date upon which said title shall have been perfected in the party of the second part.

It is mutually understood and agreed by and between the parties hereto that should the party of the second part be dissatisfied with said lands, after an examination of the same, they will not be required to perfect their title in them, and this contract shall be null and void. The examination of said lands is to be made within six months from the date of this contract.

In witness whereof, the parties have hereunto set their hands this the day and date first above written.

JOHN L BUELL,
Party first part.

Portage Lake & Lake Superior Ship-Canal Company, by their General Agent,
F. W. ANTHONY.

In presence of—
W. L. KIDDER.

[Eleven 2-cent internal-revenue stamps.]

STATE OF MICHIGAN,
Marquette County, ss:

This is to certify that I have caused an examination to be made of the lands named in the within contract by J. W. Armstrong, who has this 4th day of November, 1871, made report to me of his examination of the same, and I hereby express myself satisfied with all the lands contained in the said list, except the SE. ¼ SW. ¼, Sec. 29, T. 39, R. 28, and the SE. ¼ NE. ¼, Sec. 18, T. 39, R. 29, which are reported worthless, and the N. ½ NW. ¼ and SW. ¼ NW. ¼, Sec. 23, and lot 4 of Sec. 19 in T. 39, R. 29, and lot 4, Sec. 3, T. 39, R. 30, which are reported cut off last winter. And, it appearing from an examination of the records, that lot 4 and NW. ¼ NE., Sec. 20, and lot 1 and the NE. ¼ NW. ¼, Sec. 35, all in T. 39, R. 29, and the NW. ¼ SE. ¼, Sec. 14, and the E. ½ NE. ¼, Sec. 30, T. 40, R. 28, are old entries, and were not at the date of this contract subject to entry; the said descriptions are hereby stricken from the said contract, and the following minutes of lands furnished by party of the first part (the said John L. Buell), which have been examined by the said Armstrong, and reported upon to me, are

hereby inserted in lieu of the rejected descriptions, and made a part of this contract at the request and consent of the party of the first part. The SW. ¼ NW. ¼, Sec. 21, and SE. ¼ SE. ¼, Sec. 3 of T. 39, R. 28, SW. ¼ SE. ¼, Sec. 7, and NW. ¼ NE. ¼, Sec. 27, and NW. ¼ SW. ¼, Sec. 25, and also SW. ¼ SW. ¼ and SE. ¼ SW. ¼ of Sec. 25 (and S. ½, Sec. 19 all in T.)*, all in T. 40, R. 29, and the S. ½, Sec. 19, T. 40, R. 28, and the terms and conditions of the within contract are this day fully approved and confirmed.

Dated at Marquette this 4 day of November, 1871. Erasure in 3d line from bottom made before signing.

F. W. ANTHONY,
General Agent.

Witness:
JOHN N. ARMSTRONG.

STATE OF MICHIGAN,
Marquette County, ss:

Personally appeared before me, a notary public in and for said county, this 4th day of November, 1871, John L. Buell and F. W. Anthony, general agent, to me known to be the parties who executed the within and foregoing contract, and acknowledged the same to be their free act and deed for the uses and purposes therein named.

E. B. PALMER,
Notary Public, Marquette County.

[5-cent internal-revenue stamp.]

Q. State with whom that contract was.—A. It was with Mr. F. W. Anthony, who subscribed himself as the general agent of the canal company. It was with the Portage Lake Ship-Canal Company, "by their general agent, F. W. Anthony."

Q. State what was done under the operation of that contract by you.—A. I met Mr. Anthony at Marquette. I told him that I had the minutes of 7,000 or 8,000 acres of land which I apprehended were subject at that time to be selected by the canal company, and I said to him, "If you will give me my selection of 320 acres out of the 8,000 acres, and in case I shall select mineral lands (in selecting my 320 acres) I am to be entitled to one-half of the mineral rights, I will give you the minutes of the lands." He agreed to do so, and the contract was drawn to that effect, and the minutes are appended.

Q. And thereupon Mr. Anthony selected these lands for the benefit of the canal campany?—A. Mr. Anthony filed the list with Mr. Campbell, the register at Marquette, and he then said to me that he would select a man. In the contract I had guaranteed with him that they were valuable lands, either good hard wood, or pine, or mineral lands. He said he would select a man to go with me to review those lands, and, if they came up to my representation, the canal company would accept the contract.

Q. With reference to this list of lands which Mr. Anthony filed at the local land office, and which was made up from your minutes, what subsequently occurred?—A. These lands were filed by Mr. Campbell. I understood that they were forwarded to Washington as an application of the canal company. There was a contest between these selections and the Spaulding and Whitbeck entries which had been made in June (from the 5th of June to the 3d of July) and which had been held by the Department as legal entries.

Mr. PAYSON. South of line 41?

The WITNESS. South of line 41 and west of the western railroad limit.

By Mr. REDINGTON:

Q. They are the same lands referred to by Mr. Anthony in his testimony?—A. Yes; I believe they are.

Q. Are they the same lands in regard of which Mr. Spaulding pro-

* Stricken out.

cured patents?—A. Yes; when I came to Washington in the spring of 1873, I went to the office of the Interior Department, and met Mr. Delano. Before I had left home, we had understood that this contest between Spaulding and Whitbeck and the canal company was pending in the Interior Department, and that Mr. Spaulding and Mr. Whitbeck were going to fight it. And when I went to Mr. Delano, Secretary of the Interior, in reference to these homesteads, I said to him, "I thought you told me last fall that none of these Spaulding and Whitbeck entries would be patented until this matter was properly settled before the Department, or a board of equitable jurisdiction." Said he, "There have not been any of them patented." Said I, "Before I left home there had been 1,769 acres reported at our register's office as patented to Spaulding and Whitbeck." He said that that could not be the case, and he immediately sent for Mr. Burdette, the Commissioner. Mr. Burdette, when he came in, did not seem to know anything about the lands having been patented. Then Mr. Delano, when he ascertained that patents had been issued, told Mr. Burdette to instruct the register at Marquette to notify those parties (if the patents had been delivered) to return them—to forward them to the Department for cancellation.

Q. Do you know, as a matter of fact, whether any of these patents were returned?—A. The only patents which, by an examination of the records of the Land Office, since I came here, I found to have been returned were some five or six patents issued to the North Ludington Company. The Jesse Spaulding and Whitbeck patents were not returned. They do not appear to have been returned on the records of the Land Department.

Q. How were you employed during the summers of 1873 and 1874?—A. I was engaged in 1873 in the exploration of Quinnesee mine.

Q. Were you, at or about that time, in any way connected with the Lake Superior and Portage Lake Canal Company? If so, in what capacity?—A. I was connected with the Lake Superior Canal Company from about the 1st of October, 1871 and 1872, as an agent employed by Mr. Anthony to protect the company's land from trespass.

Q. In performing the duties of such employment what list, if any, did you have showing the company's lands?—A. The last list was sent to me from New York City. I am not certain who forwarded it. Mr. Anthony wrote to me from New York that the list would be sent. As to who forwarded the list at the time I do not know, but the list was forwarded—a diagram on which all the canal selections were marked, which was to guide me in the protection of the company's land from trespass, from other people cutting their timber.

Q. In prosecuting your labors under that employment, what, if anything, did you do with reference to even sections which you came across, that were not within the canal list?—A. I had always had my doubts as to whether all the lands marked C with a blue pencil, in the plats of the Marquette land office, were canal lands or not. When I received this diagram giving me the list of the canal lands to guide me in protecting them from trespass, I went to the county register's office and found there a plat about 8 inches square, I should think—a number of plats of all these towns on white paper. These diagrams bore the mark of Ambrose Campbell, the register, and were certified and sent to this office to be registered. I took these diagrams and checked over the lands south of 41, and I compared this New York list with the lands represented as canal lands in the list on file in our county register's office. I found forty or fifty 40-acre tracts.

Q. Of even sections?—A. Some of them. Certainly there were twenty-

six of them on even sections, that I knew of. There were possibly some odd section lands marked on these diagrams, which the canal company did not claim.

Q. You mean, did not claim according to the list sent to you from New York?—A. Yes.

Q. You found certain tracts on these lists that were furnished by Mr. Campbell which were marked as canal lands, but which did not appear as canal lands on the list which the canal company sent to you. Is that right?—A. Yes.

Q. In reference to these particular tracts of land, what, if anything, did you do?—A. I was talking of them with Mr. Edward Leek, who was either register, or was acting as register. in our county office, and I ether telegraphed or wrote to Mr. Campbell (my impression is I telegraphed him) for a number of these descriptions of lands. After I telegraphed him I went to the office of the county register and I made that remark to Leek. Leek said to me, "You have made a mistake. You will not get any of these lands if you do not telegraph for them." That was in the winter of 1872, in February, I think. I then immediately started to Marquette. I think we had to go there by stage, as the railroad was not complete to Escanaba from Menominee at that time. When I reached Marquette I went to the hotel, and as I passed Mr. Campbell's office I saw a light in the office.

Q. What time of the night?—A. I think it was about 8 o'clock in the evening. I went on to the hotel and had supper, and after that I went down to Mr. Campbell's office.

Q. State what occurred when you went to the office.—A. When I went into the office Mr. Campbell had the tract book of the office or the book on which land entries are made, with the descriptions of the land, and the names of the parties entering it. He had that in front of him at the time. I did not see any diagrams or any lists on the table where he was working. I laid down this list of lands, telling him that I made application for those lands. While I was standing there he had glanced at the list. I do not say that it was the first selection, or the second selection, or the third selection; but while I was talking to him, and after I had presented this list at the table, he marked a description of land which was contained in my list from section 12, 39, 30, to Jesse Spaulding. I saw the entry when he made it. I did not see that he had any diagram or list by him at the time. I said, "Mr. Campbell, I will not submit to that thing." I may have said something a little more violent at the time. I do not remember what it was. Mr. Campbell smiled in his way, and finally laid down his pen and shoved back from the table a little. I told him that I came for those lands and I wanted them. He said to me, "Mr. Buell, you cannot have all those lands." We had some discussion. Said I, "There is no other party who has made an application for these lands; I know that there is not. I do not think that any two persons can possibly know that these lands are vacant except myself and you, from having a record of the canal entries here, and I know that these have been improperly marked," or something of that character. I said to him, "If you will show me the application of Jesse Spaulding for this piece of land, or the application of any other man or corporation for any tract of land on this list, I will give you a hundred dollars, if you will produce it in this office, either by letter or by lists." He said it was not necessary, or something to that effect.

Q. Did he produce any such application?—A. No, sir. He did not have any such application, I suppose. I did not suppose he could make an entry of land without an application. He finally said, "You can

have part of these lands; what lands do you want?" This was on the 14th of February, 1872. Of course I did not get these lands until the next day.

Q. Go on and describe what occurred in the office that night.—A. He then gave me eighteen or twenty 40-acre tracts.

Q. What did he do with the rest of the lands?—A. I do not know whether he entered them or not. I know that he took one description from me and entered it for Spaulding. On the 14th of February (which was that night) five 40-acre tracts were entered up to Jesse Spaulding, and one to H. Whitbeck, in section 12, 39, 30.

Q. I understand that he allowed you to enter part of your list, and that he entered up the rest to Spaulding and Whitbeck?—A. Yes. There were also some odd section lands which did not appear on the list, for which I applied, which he did not give to me.

Q. Did he give these to anybody?—A. I think the canal company own nearly the north half of 7 of 39, 30. At that time they were not marked to the canal company. The canal company, I think, bought them subsequently. Mr. Campbell denied them to me at that time.

Q. On this particular occasion, that evening in the office, and before you left it, was anything said with reference to any other certain two tracts of land; and, if so, what?—A. Part of the lands I had to enter in the name of Mr. Wetmore, because I had not money enough to pay for them. I told Mr. Wetmore there were two 40-acre sections which I wanted to enter. They were valuable only for pine. Mr. Campbell was feeling a little sore towards me. I said to him, "When I go home I will send you the money for these other two 40-acre tracts"; and I called his attention to them. Said he, "Mr. Buell, if you ever leave this office without taking these two 40-acre tracts of land, you will never get them."

Q. What else do you know about it?—A. I was in Marquette about a month after that time, and the two 40-acre tracts of land were entered up to Jesse Spaulding.

Q. Do you know when they were entered up?—A. I know it from consulting the records in the land office.

Q. When were they entered up?—A. On the 2d of March.

Q. And when were you in the office?—A. On the 15th of February.

Q. At that time, when you were in the office in the evening, was either Mr. Spaulding or Mr. Whitbeck in the office?—A. No, sir.

Q. Was either of them, to your knowledge, in the town of Marquette that evening?—A. No, sir. In the fall of that year, 1872, I went to Marquette. I was there on the 21st of October, 1872. I do not know whether these four 40-acre tracts of land were embodied in the application which I made to Mr. Campbell or not. There were four 40-acre tracts of land in the north half of 7, 42, 32, which would be the four north townships of a section. They were marked C on Mr. Campbell's diagram. They were not canal lands. I went into Mr. Campbell's office and asked his permission to enter these lands. He said, "You cannot have them; they are canal lands." The same conversation occurred. I said to him, "They are not canal lands, sir; these are odd section lands, and I think they are subject to entry; they do not belong to the canal company." I asked him to refer to his list to discover whether they did or not. He did not do that. He would not let me take the lands. I went up to the hotel, where I met a man named Welcome Hyde. I said to him, "If I give you the minutes of four good 40-acre tracts of hard wood land, lying close to an iron location, do you think you can go to Campbell's office and enter them?" He said, "Yes." I sat down and drew up a little paper in which Hyde agreed, on the condition of my giving

him the minutes of the land and paying him one-third of the entry price, to give me a deed for an undivided third interest in the four 40-acre tracts. He signed that and I gave him the minutes of the land. He went down to Campbell's office (within an hour of the time I was there), and in twenty-five minutes, certainly, he came back to the hotel with a duplicate of these four 40-acre tracts. I had a deed of that property made to me, and I own it to-day.

By Mr. DAVIS:

Q. What was your business in 1871-'72?—A. Exploring and cruising.

Q. Cruising means going through the woods picking up lands?—A. Yes. And in connection with that business I was employed by the canal company to protect its lands from trespass.

Q. You were not a man of means in those days, were you?—A. No.

Q. And you would hunt up lands and go to people of large means and sell descriptions of land, or get them to enter lands with you on shares?—A. I have furnished minutes of lands to parties, and taken an interest in the land. I never sold any minutes for shares.

Q. You would go through the woods, hunt up good government lands and go to some person who had money, and make an arrangement to enter the lands, and give you a share?—A. Either to a person who had money, or who had more interest in the land office than I had.

Q. And your pay was the interest which such person gave you in the lands so obtained?—A. Yes.

Q. Have you this list which you took to Mr. Campbell this night in February, 1872?—A. No.

Q. Do you know how much lands were upon it?—A. My impression is that there were between 40 and 50 40-acre tracts.

Q. Did you go there intending to enter all these lands?—A. Yes; if I could make the arrangement.

Q. What arrangement?—A. I had to see Mr. Wetmore the next day to get the money.

Q. That night you went there to enter how many acres of land?—A. To make application for all of them.

Q. Were you prepared to pay for them?—A. Not for all of them.

Q. Could you that night pay for all of them?—A. Not there.

Q. Had you the money with you to complete the entries that night, if the receiver's office had been open?—A. No, sir.

Q. Do you recollect how much money you did have with you?—A. I must have had about $400. I entered eight 40-acre tracts in my own name.

Q. You had money enough to pay for them?—A. Yes; I had more than that, I had about $550.

Q. But you had a list of how many 40-acre tracts?—A. Between 40 and 50.

Q. And you had about $550 in money?—A. Yes.

Q. Forty or fifty 40-acre tracts would amount to some 2,000 acres of land, would it not?—A. Yes.

Q. And that would have cost over $2,000 to enter?—A. Yes; each 40-acre tract would have cost $50.

Q. You found Campbell in the office?—A. Yes.

Q. Sitting at the table?—A. Yes.

Q. And you walked up to the table?—A. Yes.

Q. And you opened a conversation with him?—A. Yes.

Q. And he was working with a plat book or tract book?—A. He had the tract book in front of him.

Q. And he then and there entered up 40 or 50 acres to Jesse Spaulding?—A. Yes.

Q. You saw him do it?—A. Yes. The table was about as wide as this. He sat at the table, and I stood in front of him.

Q. Then the book was upside down towards you?—A. Yes.

Q. And he wrote in this tract book?—A. Yes, the book in which he made entries.

Q. It was not the plat book?—A. No, sir.

Q. He wrote it right before your eyes?—A. Yes, sir.

Q. He did not conceal it at the time, did he?—A. Not at that time, nor at any time.

Q. Had you handed him your list then?—A. Yes; it lay in front of him.

Q. Had he read it?—A. He looked at it, and the time he looked at it he made this entry of the piece of land 12, 39, 30, and, I thought, took it from my list.

Q. Had he read your list?—A. Yes.

Q. Suppose Jesse Spaulding had applied for the land before that; might not Mr. Campbell have been entering it at that moment?—A. I do not know anything to prevent him.

Q. You did not get that land, 12, 39, 30?—A. No, sir.

Q. You did get all the lands which you had the money to pay for?—A. Yes; all that I had the money to pay for that day.

Q. And you told him that you wanted some other 40-acre tracts, and he told you that if you left the office without taking them that night you would not get them?—A. Yes.

Q. And you left the office without taking them?—A. Yes.

Q. That was in February, 1872?—A. Yes.

Q. And the next March you found that Jesse Spaulding had bought these two 40-acre tracts?—A. I went there within a month of that time, and found that the lands had been entered up to Jesse Spaulding on the 2d of March.

Q. And that is all there is of it about that land?—A. That is the truth about it. I said that I had found by examination in the land office, since I came here, that the entry is on record as on the 2d of March.

Q. Jesse Spaulding had no connection with the canal company, had he?—A. Not that I know of.

Q. You testified about an agreement which you made with Anthony and the canal company. You mean the old canal company?—A. Yes, sir; I made two agreements with your company.

Q. You have referred to an agreement that you made with Mr. Anthony?—A. Yes.

Q. That was with Mr. Anthony as agent for the old canal company?—A. Yes.

Q. I will read you a little from that agreement:

And furthermore, party of the first part represents the said lands to be composed almost entirely of the lands entered by sundry parties during the months of June and July, A. D., 1871, which said sale of lands has been canceled.

Then this list of lands which you furnished to Mr. Anthony, agent of the canal company, consisted of lands which had theretofore been entered by some other parties?—A. Yes, sir.

Q. And these entries you understood had been canceled?—A. Yes.

Q. Who were those parties?—A. It was Spaulding, Whitbeck, and Ludington.

Q. Where did you get descriptions of the lands?—A. From the register's office in Menominee County.

Q. You went their and copied them off?—A. Yes, sir.

Q. Anybody could have done that as well as you?—A. Yes.

Q. And you did it?—A. Yes.

Q. And you offered to sell him this list in consideration of certain lands that the canal company was to give to you?—A. Yes.

Q. These Spaulding and Whitbeck lands were confirmed finally and patents issued for them?—A. I understood that Spaulding came and scared you off, and you let him take them.

Q. What do you mean by that?—A. The canal company agreed to perfect these entries, and did not do it. Spaulding and Whitbeck held the lands and got patents for them.

Q. Do you say that we got frightened and let them have the lands?—A. That is what I understood.

Q. You say that our company agreed to do what?—A. To use all proper efforts to secure the title to these lands.

Q. Do you mean the present canal company?—A. I mean the canal pany. You have had so many companies, that I do not know.

Q. Do you mean the old canal company or the new?

The WITNESS. Do you mean the name or the individuals?

Mr. DAVIS. I want to know whether you mean the old canal company or the present one?—A. It was the company of which Mr. Avery was president.

Q. You did not mean to say that this contract is a contract with the present canal company?—A. The contract shows for itself. I refer to a new contract which you people made with me affirming that one.

Q. Where is that new contract?—A. I have it here [producing a paper]. Here is the contract which Mr. Russell made with me. The contract was put in evidence, and is as follows:

This agreement, made this twentieth day of April, A. D. 1875, between Alfred Russell, of Detriot, agent and attorney of the associated bondholders of the Lake Superior Ship Canal, Railroad and Iron Company, and John L. Buell, of Menominee, Michigan, witnesseth:

That whereas said Buell has heretofore performed valuable services for said corporation in selecting lands, under a contract for pay by and in three hundred and twenty acres of land to be selected by him (reserving, however, the mineral rights to the grantors); and

Whereas also, said corporation owe said Buell for services, as agent of said corporation in 1871 and 1872, the sum of thirteen hundred and forty-two dollars ($1,342), to them paid; and

Whereas said bondholders are willing and desirous to respect the equities of said Buell: Now, therefore, it is hereby agreed that said bondholders will, in consideration of the premises and of the sum aforesaid, convey, or cause to be conveyed, to said Buell, within sixty days after the sale of the mortgaged lands of said corporation in the pending foreclosures, the following descriptions of lands situated in the county of Menominee, Michigan, to wit:

S. ¼ NW. ¼	Sec. 11,	T. 39,	R. 29,	80	acres.
SW. ¼ ———	11,	39,	29,	160	"
NW. ¼ NE. ¼	3,	39,	30,	40	"
NE. ¼ NW. ¼	3,	do.,	30,	40	"

In witness whereof the said Alfred Russell hath hereunto set his hand on this twentieth day of April, A. D. 1875, at Lansing, Michigan, *with the express understanding that he is not held to personal liability of any kind under the above. And all rights of mineral in said lands being reserved.*

ALFRED RUSSELL,
Agent and Attorney for the Associated Bondholders.
JOHN L. BUELL.

STATE OF MICHIGAN,
County of Ingham, ss:

Personally appeared before me this twentieth day of April, A. D. 1875, Alfred Russell, and acknowledged that he executed the foregoing instrument for the purposes therein mentioned.

W. P. HEALY,
Notary Public Marquette County, Michigan.

Whereas the foregoing agreement by the canal company with John L. Buell is binding in equity upon any parties who shall come into title and possession under or through said company;

And whereas I am foreclosing mortgages held by trustees for bondholders, which mortgages are believed to be valid liens upon the above lands, said bondholders expect to buy in said lands and ultimately obtain possession and unincumbered title;

And whereas said John L. Buell has agreed to assist in defeating the pretended title of Jesse Spaulding and Henry Witbeck to said lands;

Now, therefore, I, Alfred Russell, of Detroit, as agent and attorney for said trustees and bondholders, do hereby covenant and agree with said John L. Buell that if and when said bondholders shall obtain such unincumbered title and possession of the lands named in said contract, or any portion thereof, they, the said bondholders, shall carry out said contract and convey to said Buell 320 acres of said land, to be selected by him as provided in said contract; said Russell, however, to incur no personal liability under and by virtue of this contract.

In witness whereof I have hereto set my hand and seal, at Detroit, this 24th day of March, A. D. (1874) one thousand eight hundred and seventy-four.

ALFRED RUSSELL, [SEAL.]
Agent and Attorney for Tr's and Bondholders.

STATE OF MICHIGAN,
County of Wayne, ss:

On this 24th day of March, A. D. 1874, personally appeared before me the subscriber, Alfred Russell, to me known to be the same person named in and who subscribed the foregoing, and acknowledged that the same was his free act and deed.

MILES J. O'REILLY,
Notary Public Wayne Co., Mich.

Q. Is this the contract made by our company with you?—A. The associated bondholders.

Q. Have you any contract made with you by the present canal company about these lands?

The WITNESS. What do you call the present canal company?

Mr. DAVIS. The Lake Superior Ship Canal Railway and Iron Company?

A. No, sir.

Q. You say that you went to the register's office and found some plats marked with a C upon them. What register's office did you go to?—A. Our county register's office—the register of Menominee County—what you call a recorder.

Q. The county seat is where?—A. In Menominee.

Q. Is he a State officer?—A. He is the county recorder of deeds.

Q. Going back to the plats, which you say you found in the county register's office marked C; when was that?—A. It must have been between the 10th and the 15th of February, 1872.

Q. How did these plats happen to be there?—A. They were sent there by the land office, I suppose, because they were certified by Mr. Campbell as correct copies.

Q. And on these plats were certain lands marked C?—A. Yes.

Q. How long had they been in the office?—A. I do not know.

Q. When did you come to Washington?—A. About a month ago.

Q. Were you subpœnaed to come here?—A. No, sir.

Q. What did you come for?—A. I came here to see if I could make you men do what you agreed to do, and pay me what you owe me.

Q. What do you mean by "you men"? Do you mean the canal company?—A. Yes.

Q. You had an interview with me shortly after you came here?—A. Yes.

Q. What proposition did you make to me?—A. I made this statement to you: that I was opposed to the confirmation of the Ontonagan and Brulé River grant, and that if you men would give me the 320 acres of land you owed me, I would take them out in the Ontonagan

and Brulé River grant, and would remain here, if you desired it, and work for the confirmation of your title—for your protection.

Q. Is that the only proposition that you made to me?—A. I do not recollect any other especially.

Q. What proposition did you make to me about this investigation?—A. I do not recollect any.

Q. Standing out there by the window at the end of the hall?—A. If you call my attention to it, I will tell you.

Q. What proposition did you make to me standing at the window outside, about this investigation?—A. I do not recollect. If I made any proposition it was an honorable one.

Q. You say you do not recollect it?—A. I do not recollect any special proposition.

Q. Do you recollect saying that you had papers in your pocket which would blow this investigation out of the water?—A. No, sir.

Q. And that if the canal company would give you 320 acres of land you would produce papers which would blow the investigation out of the water?—A. No, sir; I never made that statement. You are a little off.

Q. Tell us what you did say.—A. I telegraphed when I left Chicago to Mr. Davis that I would be at Willard's Hotel, Washington (this, I think, was on the 24th of March), "to-morrow evening," and that I wanted to see him, and would like to see him. I came to Willard's Hotel, and he was not there. I came up here next day. He was sitting on that lounge [indicating]. I asked him if he had received my telegram. He said "Yes;" but that he supposed it meant to-morrow evening; not that evening. That was his answer. I then left him, after we had some chat here. During this conversation to which he refers he said to me, "I will go to New York, and will have to see our executive committee." I told him, "You know what I want. Your old canal company owed me in 1873 $1,350." In 1875 I went down to Lansing in the interest of the lumber companies on our river, and procured the right of the lumber corporations in Michigan to hold 100,000 acres of land, and to increase their capital stock to $75,000 or $100,000. I went in the interest of Kirby, Carpenter & Co., and other companies. This was very near the close of the session. I was not then a member of the legislature, though I had been two years before. Alfred Russell, of Detroit, on the part of the associated bondholders, came to me and said, "We have got into a bad snarl. The legislature has repealed the Alpena act; and, in repealing that, has repealed the franchises on which the Portage Lake Canal Company has been organized. Can you help us?" I said that I could upon certain conditions. He said, "What are they?" I referred him to the money which this canal company owed me, and also to the old contract under which I was to get 320 acres. Said I, "If you draw up an agreement with me, I will waive that $1,350 if you agree to give me 320 acres from your grant, and I will also waive my half-mining right, and deposit that contract in the hands of any party in Lansing, to have it carried out when this act is re-enacted and signed." These were the terms of the contract (reading from the paper already in evidence). I went to work, and in forty-eight hours after that time the bill was signed. The bill was not signed before I left Lansing; but the governor signed it the very day before the adjournment of the last day of the session. This contract was forwarded to me afterwards. There was a long litigation or trouble in regard to the trusteeship. This is a matter which is liable to come up before we get through with it, and it may possibly come before the Committee on Public Lands in some other form.

Mr. Russell said he could not execute that contract without knowing more about it, and he telegraphed to New York. He afterwards showed me a dispatch and read it to me, saying:

Any arrangement that you make with Mr. Buell will be carried out by us.

This dispatch was signed by some parties in New York. I do not know whether it was signed by Mr. Davis, Ayer, or by whom it was signed. After they had acquired these lands, they refused to convey the 320 acres to me, and Mr. Russell wrote me letters saying, "If I live, that contract will be carried out." But these gentlemen organized a new company, and I could not reach them.

Q. Did not this canal company settle that matter with you and take your receipt for it?—A. No, sir.

Q. The canal company never settled with you?—A. No; you blackmailed me.

Q. Tell the committee how we blackmailed you?—A. I was laying out and building a town in that country. I owed $9,000, and I mortgaged my property to buy a saw-mill. The northwest quarter of 3, 39, 30, was one of the descriptions of land which the canal company had agreed to give to me. I got this saw mill under the supposition (it was in the summer season) that I would be allowed to cut the land. I supposed that I had a perfect right to go on and cut it. I got my mill in there, and made my contract for lumber. I began cutting the timber. I met Mr. Longyear on the cars. Mr. H. C. Meryman sat on one side of the seat, and Mr. Longyear on the other side.

Mr. PAYSON. Were they connected with the canal company?

The WITNESS. Mr. Longyear was the agent of the canal company at that time, and has been since then, and I believe is so to-day. I asked Mr. Longyear what that land was worth, and he said it was worth $1 a thousand. I paid him $1 a thousand; that was $600 for the amount of pine that was estimated to be on the land. I paid him $600 for it. After I had nearly cut the land, Mr. Davis came back to me and said, "I do not recognize that sale of Mr. Longyear's to you. Mr. Longyear had no right to sell timber without submitting it to New York. You have got to pay $600 more." There had been no stumpage sold in that country at that time at more than $1 a thousand. A year later I bought better timber for $1 a thousand.

Mr. Davis said, "If you will not pay $600 more money we will go for you." I was not in a condition for them to go for me. To have gone for me would have been to have smashed me. I was in no condition to fight the Portage Lake Canal Company. On a charge of either willful trespass or ordinary trespass they could have sustained an action against me, if they did not recognize the action of Mr. Longyear. Under the pressure exercised by Mr. Davis at that time I gave him a receipt for something. [To Mr. Davis:] If you have that receipt, I will thank you to produce it.

By Mr. DAVIS:

Q. Was not that matter settled amicably between us, and did you not sign a receipt in full?—A. No, sir; I regard that as blackmail.

Q. Do you mean to swear that you bought that land from Longyear on the cars, and paid him for it?—A. Not on the cars.

Q. Did you pay him for it?—A. We made that agreement on the cars.

Q. Did you pay him for the land?—A. Not there.

Q. When did you pay him?—A. I do not know. I sent him a draft for it afterwards.

Q. That was one of the 40-acre contracts referred to in your agreement?—A. Yes.

Q. How did you happen to buy that of Mr. Longyear, if the land belonged to you under this agreement?—A. He gave me to understand that I could not cut it.

Q. But you claimed that you had a right to cut it?—A. I claimed that under the contract I had.

Q. But, nevertheless, you went on and made an agreement with Mr. Longyear that you would take that land, and paid $600 for it?—A. He said it was worth $1 a thousand, and I went on cutting.

Q. At the same time that by the agreement you claimed that you were entitled to the land?—A. Yes.

Q. Is it not a fact that you went in and cut timber on that land without saying a word to any one about it, and that I went to Quinesee and asked you about it, and that then you told me about this claim, and I told you that I could not recognize this claim; that I never heard of it, and that I knew the canal company had never heard of it. And is it not the fact that you also cut another 40-acre tract beside it, and that we had a long dispute about it, and that the end of it was that you only paid a portion of the value of the property?—A. I paid all that it was worth.

Q. The price was $1,200?—A. You made that price after the timber was cut. Mr. Longyear made the statement to me that the timber was worth $1 a thousand. You made the price $1,200 after you came back.

Q. Do you swear that Longyear sold it to you?—A. I do not swear that he sold it to me. I gathered from the conversation with Longyear, and from his remarks, that I had a right to cut that timber on paying $1 a thousand.

Q. And you derived that understanding from his saying that the timber was worth $1 a thousand?—A. Yes.

Q. And you cut it?—A. Yes.

Q. And I claimed that the timber was worth $1,200?—A. Yes.

Q. And we compromised by my giving up $600 in satisfaction of your claim against the old canal company?—A. I have not said that.

Q. Is it not true?—A. I do not know.

Q. Do you not know that I threw off $600?—A. I do not know that you ever did.

Q. Do you not know that you only paid $609, and that I claimed $1,200?—A. Yes.

Q. Why was not the other $600 collected?—A. It may have been in connection with this thing.

Q. Do you not know that it was?—A. Even if I had given you a receipt in full I should have regarded it as an extortion, and as an advantage that you had taken of me.

Q. The advantage that I took of you was that I told you if you did not pay for the timber I should have to sue you for trespass?—A. Yes; and I knew what that was.

Q. That was all the advantage I took of you?—A. Yes.

Q. And rather than be sued for trespass you paid this $600?—A. Yes.

Q. Did I have a conversation with you at the end of the hall about this investigation and about your testimony; if so, what proposition did you make to me?—A. My recollection is as I have stated it. I said that if the canal company would carry out this contract with me I would go to work, if you desired me, and would assist the canal company as far as I could in securing legislation to protect its interest.

Q. What proposition did you make to me about this investigation?—A. Nothing that I know of. It occurred in Mr. McGowan's office. I told you I had papers in my pocket which would tell very seriously against the Ontonagan and Brulé River grant; that is my recollection about it.

Q. Had you subsequently a conversation in Mr. McGowan's office?—A. Yes.

Q. What proposition did you make there about the investigation?—A. Nothing more than is embodied in my two answers.

Q. Did you make a proposition that in case they gave you that you would give testimony which would end this investigation immediately?—A. No, sir.

Q. Did you have any conversation with Mr. McGowan in the matter?—A. Yes, sir.

Q. Did you make any proposition to him?—A. I requested him to write to you in New York.

Q. Did you make any proposition about this investigation?—A. Nothing further than I have stated in my two statements. One referred to this paper and the other to what I would do.

Q. Have you been to the chairman of this subcommittee about this matter?—A. Yes, sir; I visited him.

Q. Did you take this contract to him?—A. Yes.

Q. And told him your story?—A. I told him part of it.

Q. What object did you have in doing that?—A. I asked Mr. Payson, and I shall ask other members of the committee that before the committee reports on your case it shall demand of you to do right. I shall not only ask them to do it, but shall ask others.

Q. You want the canal company to pay you over again on that claim?—A. No; I want you to carry out your contract.

Q. You want your 320 acres of land?—A. Yes.

Q. And that is the object that you had in going to Mr. Payson?—A. My object in going to Mr. Payson was to represent to him just the position I stood in here; and Mr. Payson will tell you that in my conversation with him I used no language which reflected upon your interest in any particular. I gave you ten days in which to make up your mind what you would do. Everybody in the Upper Peninsula who has had dealings with your old company has been robbed and defrauded in every transaction, and I made up my mind that this Congress should judge how you gentlemen had made your entries of land, and the whole business. And I am going to do it; you cannot fix the thing now with me for 320 acres or for 3,000 acres. The time has gone by.

Q. We could have fixed it with you?—A. Yes, but the time has gone by.

Q. And if we had you would not have told the committee?—A. I would have told if I had been put on the stand.

Q. Is not that the proposition that you made?—A. I said that if you fixed it up with me I would go home.

Q. And I declined?—A. You said you would have to see your executive committee about it. I said that if you wanted me to remain and use my influence in behalf of the company I would do it.

By Mr. REDINGTON:

Q. Suppose you had made this arrangement with Mr. Davis, and the canal company had paid you what it owed you, what would you have done besides giving your testimony; would you have done anything but told the truth?—A. No, sir.

Q. With reference to the applications made to the register of the local land office you never paid him any money?—A. No.

Q. He allowed or disallowed an application, and you then took it to the receiver?—A. Yes.

Q. And you paid the receiver?—A. Yes.

Q. Consequently, when you went to Mr. Campbell's office there was no necessity for your taking any money there?—A. No, sir.

Q. That was to be done next morning with the receiver?—A. Yes.

Q. When you speak about a tract book, are you sure that it was a tract book or a register book that he was writing in that evening when you went to his office?—A. It was a book in which he enters his entries as they occur successively in the office.

Adjourned until to-morrow.

WASHINGTON, D. C., *April* 18, 1884.

THOMAS L. RUNNELLS sworn and examined.

By Mr. MONTGOMERY:

Question. Where do you live?—Answer. In Saginaw County, Michigan.

Q. How long have you lived there?—A. For seventeen years.

Q. Do you recollect the circumstance of your making a trip to Marquette about 15 or 16 years ago for the purpose of looking up some lands to be located?—A. Yes.

Q. At that time, what was your general business?—A. Making selections of Government lands.

Q. At whose instigation and request did you make that trip?—A. John F. Driggs.

Q. Tell the committee what there was about it.—A. I went into the Marquette district in the Upper Peninsula of Michigan in the spring of 1867, to select lands for John F. Driggs, for which he was to pay the Government. I made the selections at my own expense, for one-fourth interest of the profits of the land when it should be disposed of. Mr. Driggs did not pay for that land, as he arranged with me to do, and as he arranged with the register of the land office to do. It was marked to him, but was not paid for some length of time. He did not succeed in getting money to pay for it, and he told me that he had made an arrangement with the Portage Lake Canal Company, or with Colonel Avery.

Q. Go on and tell what was done. You say the land was marked upon the books for Mr. Driggs. What books do you mean?—A. I mean the books of the land office at Marquette.

Q. Tell what was done after that in reference to these lands.—A. These lands (most of them, not all) they marked with the letter C for John F. Driggs.

Mr. PAYSON. Did they come into the hands of the canal company, as you understand it?

The WITNESS. Yes; they did.

By Mr. MONTGOMERY:

Q. Go on and tell what became of the lands.—A. The marks were changed from J. F. D., on the plat books, to C, which represented the Portage Lake Canal Company, as I was informed.

Q. What quantity of lands was there?—A. I selected for Mr. Driggs about 16,000 acres; but there were between 11,000 and 12,000 acres marked up with the letter C. There was a lot of those lands which had been formerly marked to Driggs and which were located by Mr. Sage.

Q. What quantity of land?—A. Something over 11,000 acres.

Q. After the mark was changed from Driggs to the canal company?—A. Yes. They were afterwards located by Mr. Sage, of Ithaca, N. Y.

Mr. PAYSON. About how many acres did Sage get?

The WITNESS. About 11,000 acres.

By Mr. MONTGOMERY:

Q. About what time did Sage locate these lands?—A. In 1871, I think.

Q. What time were they looked up and marked for Mr. Driggs?—A. In the summer and fall of 1867.

Q. And when were the marks in the books changed from Driggs to the canal company?—A. Between that time and the 1st of June, 1868.

Q. And when were they located by Sage?—A. In 1871.

Q. What did you subsequently do yourself about these lands?—A. They were located by Mr. Sage (as I ascertained) for himself, in the interest of Mr. Driggs, and I sued Mr. Driggs for my one-fourth interest.

Q. Did you get it?—A. I got what I could of it.

Q. You brought suit and compromised it?—A. Yes; and finally got a part of it.

Q. Did you know Mr. Seth P. Bliss at that time?—A. Yes.

Q. Where did he live?—A. Buffalo, N. Y.

Q. Did he have any connection with that land or any relations to it?—A. I sold him the minutes of the lands which had been once marked to Driggs, and which were not marked over to the canal company. Mr. Bliss and myself made a demand for those lands which stood marked C in the plat books.

Q. Of whom did you make the demand?—A. Of the register of the land office.

Q. Mr. Campbell?—A. Yes.

Q. When and where?—A. At Marquette, in June, 1868.

Q. Tell the committee what took place at that time between yourself, Mr. Bliss, and Mr. Campbell.—A. I informed Mr. Campbell that these lands I had selected for Mr. Driggs, and that I had been informed by Mr. Driggs that they were held out of market for his interest, and not for the canal company.

Mr. PAYSON. What did you say to Mr. Campbell?

The WITNESS. That I had sold these lands to Driggs and that Driggs had turned them over to the canal company, to hold them for his interest until he would get the money to pay for them; that I was the man who selected them, and that I knew that this was not a permanent operation—that is, that the lands were not intended for the canal company—and I made a legal demand for the lands and tendered him money and land warrants sufficient to pay for them.

By Mr. PAYSON:

Q. You looked up the lands originally?—A. Yes.

Q. And you made an arrangement by which the lands went to Driggs?—A. Yes.

Q. And a pencil memorandum was made on the books for Driggs?—A. Yes.

Q. And afterwards there was some arrangement between Driggs and the canal company?—A. Yes.

Q. And the mark was changed in pencil to C, indicating the canal company?—A. Yes.

Q. And after the marks were thus changed you went back to the office again with Bliss?—A. Yes.

Q. And made a demand for the same lands?—A. Yes.

Q. What is it that you say you claimed from Mr. Campbell?—A. I claimed from Mr. Campbell what Mr. Driggs told me.

Q. Did you tell him what Mr. Driggs told you?—A. Yes.

Q. Tell me what you told Campbell that Driggs had told you.—A. I told Campbell that Mr. Driggs had told me that the canal company had beat him out of the land and that he was not going to get anything out of it, and that if I could get anything out of it to do so.

Q. What did Campbell say to you?—A. Campbell read to me the act of Congress appropriating land for this canal company, and showed me that the canal company had a right to select lands and mark them up.

By Mr. MONTGOMERY:

Q. Did you offer the money for them?—A. Yes, and land warrants.

Q. Were these lands odd sections or were they even sections?—A. They were both.

Q. Did Mr. Campbell in that conversation state anything as to changing the mark on the lands from J. F. D. to C?—A. I learned from Mr. Edwards, the former register, that those lands stood marked to Driggs when he left the office on the 1st of April, 1868.

Q. And you so stated to Mr. Campbell, did you?—A. Yes.

Q. What did Campbell say?—A. He first pretended that he did not know anything about it. I showed him in a township plat where there were several tracts marked with J. F. D. which had been rubbed out in part, but not fully. I told him that I had sold that land. He saw the mark and said that it had been done since he had been in the office.

Q. That is that the mark had been changed since he, Campbell, was in the office?—A. Yes.

Q. Do you know anything about the contract between Driggs and Sage in pursuance of which the lands were afterwards located?—A. I do not know anything of it of my own knowledge. I heard Mr. Sage say that there was a contract.

Q. Did you talk with Campbell on that subject in your interview with him?—A. No, sir.

Q. Your only knowledge of that is by hearsay, I understand?—A. That is all

Q. Mr. Driggs is dead, is he not?—A. Yes.

Q. At that time when you made the marks and looked up these lands Mr. Driggs was in Congress from that district?—A. Yes.

Q. And had been for several terms?—A. Yes, I guess that that was his third term.

Q. Do you know, of your own knowledge, what sum Mr. Driggs realized in this land transaction with Sage?—A. I do not know exactly.

(Objected to by Mr. Davis, and objection overruled.)

Q. Do you know approximately, or pretty nearly?—A. I do not, of my own knowledge, positively; it was thirty-odd thousand dollars, I guess.

Q. What knowledge have you about it; what are your means of knowledge?—A. My means of knowledge are from the man who purchased the land finally.

Q. Who was he?—A. A man named Cheesboro'.

Q. Was that settlement with Mr. Driggs made on that basis?—A. Yes, sir.

By Mr. REDINGTON:

Q. Is this the list of the lands which you selected, and which you have been just telling about, attached to a certain affidavit of your own, marked Schedule A?—A. This is the list; but one description appears to be wrong. This is the list which I found marked upon the books at Marquette, with the letter C, which had been formerly marked to Driggs.

Q. Can you tell which description is wrong?—A. Here is one description—the west half of the northeast quarter, purporting to be in township 27.

The CHAIRMAN. What should it be?

The WITNESS. It should be township 47 north instead of 27.

(The list was put in evidence marked Exhibit 20.)

Mr. MONTGOMERY. With that exception is the list correct?

The WITNESS. The list is correct with that exception.

By Mr. DAVIS:

Q. Did you take this list, which you have just produced, to the land office?—A. I took a list from which that was made to the land office. It contained the same lands, or rather I had a list of all that I had taken there for entry. I made a list when I was there in June, when I made a demand for these lands, from which list this is copied.

Q. What was this list attached to?—A. An affidavit.

Q. Whose affidavit?—A. My own.

Q. Made in what proceeding?—A. I do not know; it was made two or three years ago.

Q. And I understand you to say that these lands were marked upon the tract books or plat books with the letters J. F. D.?—A. On the books that they use in the land office.

Q. The plat books?—A. Yes, the plat books.

Q. How do you know that they were marked J. F. D.?—A. I saw mostly all of them so marked.

Q. That was under Mr. Edwards?—A. Yes.

Q. And you went there to enter the lands for Mr. Driggs?—A. No, sir.

Q. Who did go there to enter them for Mr. Driggs?—A. I selected the lands for Mr. Driggs.

Q. You went into the woods and selected them?—A. Yes.

Q. After you made your examination of the lands, what did you do?—A. I went to Marquette with the minutes.

Q. Whom did you go to see?—A. The man at the land office.

Q. You mean Mr. Edwards?—A. Yes.

Q. What arrangement did you make with him?—A. Mr. Driggs had made the arrangement with him.

Q. Before you went there?—A. Yes, to mark up such lands as I should bring, and that he, Driggs, would forward the money for them.

Q. And you did furnish the list to Mr. Edwards, and he marked the lands J. F. D.?—A. Yes.

Q. About when was this?—A. About 1867.

Q. About what time of the year?—A. From June to October or November.

Q. What did you next do about that matter?—A. The next thing that I did was the next year, in June, 1868.

Q. What did you do then?—A. I went there to locate these same lands. I did locate some of them.

Q. You went there to locate them?—A. Yes.

Q. Had they not been located before?—A. Not permanently.

Q. Only marked on the books?—A. That is all.

Q. Mr. Driggs had not paid for them?—A. No.

Q. What time of the year did you go?—A. In June, 1868.

Q. After the land office had been burned?—A. No; a few days before it was burned.

Q. Mr. Campbell was the register then?—A. Yes.

Q. What did you do with Mr. Campbell?—A. After looking over the books and getting the true minutes of the land——

Q. What do you mean by the true minutes?—A. I mean getting them correct. I went and looked over the books with Mr. Campbell's consent, and made a list of the former lands that I had selected for Mr. Driggs. Some of them appeared on the books with the initials partially rubbed out and some of them with the initials altogether rubbed out.

Q. That is, you went over the books and made a list of the Government subdivisions?—A. Yes; I had a list which I had made previously, and I compared it with the book and made a new list of the lands that were marked C, and of those that were not so marked. It took me some time.

Q. You found that some of these entries had been marked with a C, and that the initials J. F. D. had been rubbed out?—A. Yes; and in some cases only partly rubbed out.

Q. What proportion of them had been marked with a C?—A. More than 11,000 acres.

Q. How many acres are there in this list (Exhibit 20)?—A. More than 11,000.

Q. But the list which you took there at first embraced how many acres?—A. About 16,000.

Q. And about 11,000 of them were marked with the letter C?—A. A little more than 11,000.

Q. And Mr. Campbell told you that the canal company had a right to take the lands, and that they had been marked with a C?—A. Yes.

Q. What did you do with the rest of the lands?—A. I took them not in my own name, but in the name of Mr. Bliss.

Q. Then you say that after that had been done you went away from there?—A. Yes.

Q. What did you next do about those lands?—A. The next that I really did was to sue Mr. Driggs for my interest in them. Mr. Sage bought those lands in Mr. Driggs's interest.

Q. You found that about 11,000 acres of land had been taken by the canal company, and the rest of the list you took and bought in the name of Mr. Bliss?—A. I took all that I could find.

Q. What next happened about this land?—A. The next thing that happened about it I got my information from Mr. Sage.

Q. What did you do after that?—A. I sued Mr. Driggs for my interest in it.

Q. In furnishing him with these minutes?—A. Yes.

Q. Where did you sue him?—A. In Saginaw County.

Q. And you did not get these 11,000 acres?—A. No; I did not.

Q. What did you say Mr. Driggs told you about the canal company going back on him?—A. Mr. Driggs told me that he had got those lands marked up to the canal company for his benefit, and that when the canal company got them into its hands it refused to give him an interest in them, saying that the lands were the company's lands.

Q. Will you repeat that?—A. Mr. Driggs told me that he had got the land office to mark up the lands to the canal company, and that after the canal company had got them into their possession they kept them

and beat him out of them, and that if I could get anything out of them to do so. That was the course I pursued—going there to try to get something out of them. I kept watch of them and I found that the lands were sold to Mr. Sage. Sage furnished the purchase-money and held the duplicate certificates as security for the purchase-money until it was paid back.

Q. And you found that ultimately the canal company did not get these lands but that Sage did?—A. Driggs said that they were marked up to the canal company with his consent.

Mr. PAYSON. Did Sage get the whole 16,000 acres?

The WITNESS. No; but about 11,000 acres.

By Mr. DAVIS:

Q. Did I understand you to say that you also consented to these lands being marked to the canal company?—A. I consented to Driggs doing what he liked with them so long as I got my interest.

Q. Did you know that they were marked up on the books of the canal company?—A. I supposed they were.

Q. Then the marking up of the lands from Driggs to the canal company was not news to you and was not a fraud upon you?—A. No.

Q. But these same lands you say were ultimately bought by Mr. Sage?—A. Yes.

Mr. Payson asked counsel whether it would be insisted as to any portion of these lands thus selected for Driggs and 11,000 acres of which afterwards went to Sage, that the canal company ever got a title to them.

Mr. Redington said he did not understand that the canal company did get a title to them.

By Mr. DAVIS:

Q. You went there with this list and had the lands marked J. F. B. what time in 1867?—A. From the first of June to October or November.

Q. Was it in June, or was it in October or November?—A. It was done from time to time. It was not all done at the one time.

Q. You did not take a complete list at one time?—A. No, sir; from time to time.

Q. You went there from June until October, 1877?—A. Yes.

Q. The land office at that time was under Mr. Edwards?—A. Yes.

Q. When did you go back again for the first time after October, 1867?—A. I think I went to Marquette in the last days of 1868.

Q. You do not know, do you, when the mark on these lands was changed from Driggs to the canal company?—A. Not of my own knowledge.

Q. When you went back there in June, 1868, the change had been made?—A. Yes.

By Mr. MONTGOMERY:

Q. When did you first learn (I do not mean when it was done) that these lands had been marked to the canal company?—A. I learned it when I saw it.

Q. Had you heard about it before?—A. I had an arrangement with Mr. Driggs. Mr. Driggs proposed to me that if I would consent to it he would have the lands marked up to the canal company, and would finally purchase them, and that my interest would be good.

Q. What reason did Driggs give for marking them to the canal company?—A. To hold them from the public market, and to prevent other ndividuals buying them, so that he could finally buy them himself.

By Mr. PAYSON:

Q. You understood that that was done some time during the winter of 1867-'68?—A. I learned in April, 1868, that it was done.

Q. But it had been done prior to that time, as you understood, under this arrangement?—A. I did not learn from Mr. Driggs when it was done. He made the proposition to me and I consented to it.

Q. When was that?—A. In the fall of 1867.

By Mr. MONTGOMERY:

Q. You said a word on the subject of having learned from Mr. Edwards that this canal mark was not on the books when he left the office?—A. He told me that he left the office before April, and that the land was not changed while he was in the office.

Q. Did he tell you anything about applications being made to him to change the marks?—A. Yes.

Q. What did he say?—A. He said that applications had been made to change the mark, and he would not do it; that he did not think he had the right to do it, and that he supposed that that was the cause of his removal.

By Mr. DAVIS:

Q. But Mr. Edwards consented to hold these lands without being paid for them from June, 1867, to April, 1868?—A. No; he considered that the lands should be paid for by Driggs or that they should go back to the Government.

Q. But he held them, marked J. F. D., without being paid for from June, 1867, to April, 1868?—A. Yes.

By Mr. REDINGTON:

Q. Did Mr. Edwards, to your knowledge, at the time of the location or marking of these lands in the name of Driggs say to Driggs or to you anything in reference to what he would do with the lands in case anybody else came along and applied for them?—A. He said that if anybody called for the lands he would be obliged to let him have them.

By Mr. DAVIS:

Q. Did he say anything about their being withdrawn from market?—A. No, sir.

By Mr. PAYSON:

Q. I understand you to say that in the fall of 1867 you knew from conversation with Mr. Driggs that there was an understanding between Driggs and the canal company that the lands should be marked as canal company selections, so as to keep other people from getting them?—A. Yes.

Q. That was in the fall of 1867?—A. Yes.

Q. Whom did you understand to be the parties to that arrangement?—A. Colonel Avery on the part of the canal company; that is all the man I heard mentioned in the matter.

Q. What was Mr. Edwards, the register, going to do?—A. He did not connect Mr. Edwards with it.

Q. But you know that he kept them out of market while he was register?—A. Edwards marked the lands for Driggs, and waited for Driggs to pay for them.

Q. You say that some time during the fall or winter of 1867-'68 these lands were marked to the canal company, under some arrangement to keep them out of market?—A. Yes.

Q. Who would so mark them?—A. It must have been done by the register.

Mr. DAVIS. That arrangement could not be made without the action of Edwards.

The WITNESS. I should think not.

Mr. REDINGTON. But Edwards said that if anybody else came along he would be obliged to dispose of those lands?

The WITNESS. Yes.

Mr. DAVIS. But he did not dispose of them?

The WITNESS. I guess he did not dispose of any of them.

The committee here took a recess.

After recess Mr. AMBROSE CAMPBELL was recalled, and his examination continued.

Mr. Davis offered in evidence the certified copy of letter written by witness to the Commissioner of the General Land Office, dated August 16, 1872.

Mr. Redington objected to the certificate as not covering the indorsements which appeared in the copy.

The objection was sustained.

By Mr. REDINGTON:

Question. When you were appointed register of the land office at Marquette, were there to your knowledge any charges of any kind preferred against your predecessor in office?—Answer. I heard a good deal said about him; the public generally was dissatisfied with him.

Q. Do you know the cause of his removal from office?—A. I cannot say that I do, particularly.

Q. Do you know whether his refusal to allow certain initials that had been written on the plat books of his office, in the name of J. F. D., to be changed to the initial "C" had anything to do with his removal?—A. I never heard of any such thing.

Q. Did you know anything about it at the time?—A. I did not know anything about it.

Q. Do you know anything about his refusal to allow things of that kind to be done?—A. I do not.

Q. After you came to the office it was done, was it not?—A. The most I know about that (which is a good way back) is what Mr. Runnels has said here; his recollection is much clearer than mine upon it.

Mr. REDINGTON. You have commenced, as we have been going on for two days, with attempts to avoid answering my questions.

The WITNESS. My impression is that it was done after I went into the office.

Q. Do you not know that it was?—A. I cannot say positively.

Q. Do you not know that you did it?—A. No, sir; I will modify that; my impression is that I did not; possibly I may have done so; I think I marked some of the tracts for the canal company, but the most of them they marked themselves.

Q. You think that you marked some of the tracts for them?—A. I think I marked some. Some of their lists were sent me by mail.

Q. Which had been previously marked in the name of Driggs?—A. No; I do not have any reference to the Driggs list.

Q. Do you ever remember seeing on the tract books in that office any lands that were marked with the name of Driggs?—A. As I said yesterday, I do not recollect seeing the initials J. F. D. on the tract books. They may have been, but my memory does not serve me in that way.

Q. Did you know Mr. Driggs?—A. Yes.

Q. Did you ever have any conversation with him about this matter?—A. I do not think I ever did, particularly.

Q. Did you ever have any conversation with Mr. Edwards about it?—A. Mr. Edwards told me when he turned over the office to me that there was a list there for Driggs, or something of that kind.

Q. Did he tell you anything more?—A. Nothing more, I think.

Q. How did he come to tell you that there was a list there in the name of Driggs?—A. He turned over all the unfinished business to me, and in it was that list.

Q. Did he specify, when he turned the office over to you, all the papers that he had in his office?—A. I presume he did.

Q. What is your recollection about it?—A. That is usually the case.

Q. To go through the details of the office and mention every paper on file there; is that the usual custom?—A. No.

Q. Then, why did he make an exception of this particular list?—A. It is the usual custom for a register, when he turns the office over to his successor, to mention all unfinished business.

Q. Did Mr. Edwards mention all the other unfinished business of his office?—A. I presume he did.

Q. What do you recollect about it?—A. He turned over some land warrants that were sent there by people for location of lands.

Q. You say that he mentioned and referred to all the unfinished business in his office?—A. I presume he did.

Q. I am asking you whether he did or not.—A. I cannot say that he did.

Q. I am not asking you what you can say or you cannot say. I want you to answer my question. I ask you whether, when he turned over the office to you, he mentioned to you all the unfinished business?—A. I cannot answer in any other way. Of course, I cannot answer what another man may have done or may not have done.

Mr. PAYSON. You are asked for your best recollection.

By Mr. REDINGTON:

Q. Did Edwards purport to mention to you all the unfinished business of his office?—A. I suppose he did.

Q. Without any supposition, do you know whether or not he purported to mention to you all the unfinished business of his office?—A. He turned over to me all that he said was in the office.

Q. Did he mention in detail all the papers that he turned over to you as unfinished business?—A. I presume he did.

Mr. PAYSON. Have you a recollection about it? You may presume he did, because probably that is the way such things are done, but the question is what you recollect. If you recollect it say so, and if you do not recollect it say so.

The WITNESS. I should say he did.

Mr. PAYSON. What do you recollect about it; do you recollect anything about it?

The WITNESS. All I recollect is that he turned over the office to me and the records. I will modify that; he did not do that. He was very sore. He told me when I went in that there was the office and I could take it.

By Mr. REDINGTON:

Q. Then he did not mention the unfinished business to you?—A. I do not know whether he did or not. I made my own inventory of the stuff in the office.

Q. When you went into the office, instead of his turning over the office to you in detail and mentioning all the unfinished business, he said, "Here is the office, take it," or words to that effect, and you made an inventory?—A. Yes; I made an inventory of all the records. I hunted up all the valuable papers and all that kind of thing, and made a minute of them.

Q. Have you got that inventory?—A. No; I presume that it was burned up in 1868.

Q. At the time that you made that inventory did you make an inventory of the old railroad withdrawal for the Ontonagon and State Line Railroad Company?—A. I cannot say; I presume I did.

Mr. PAYSON. Have you any recollection about it?

The WITNESS. I have not.

Mr. PAYSON. You presume you did because it was in the order of business that you should?

The WITNESS. Yes.

Mr. PAYSON. You were asked for your recollection about it.

The WITNESS. I have no recollection about it.

By Mr. REDINGTON:

Q. Then you have no recollection of making an inventory?—A. I recollect making an inventory.

Q. You made an inventory of all that you found in the office?—A. Yes.

Q. Did you make an inventory of the limits and withdrawal of the Ontonagon and State Line Railroad Company?—A. If it was in the office I did.

Q. Do you recollect anything that you put on that inventory?—A. I do not.

Q. Then I understand that Mr. Edwards made an exception and mentioned to you a certain portion of the unfinished business of the office—being this Driggs list. Is that so?—A. I think he did.

Q. What occasion had he to mention the Driggs list without mentioning anything else?—A. I should infer from what Mr. Runnels said——

Q. I do not want you to testify anything about what Mr. Runnels said. I want an answer from you as to your own recollection, and I do not want anything else. What reason had Mr. Edwards for making an exception of this one thing?—A. The presumption is that this was some unfinished business in the office, and he naturally called my attention to it.

Q. But you have just said that he did not call your attention to it, but turned over the office to you.—A. There were some things that he would naturally call my attention to.

Q. And this was one of them?—A. Yes, and there were some warrants.

Q. What reason did he have for calling your attention to this one thing and the warrants?—A. I cannot say exactly.

Q. What did he say to you when he called your attention to the Driggs list?—A. He simply called my attention to it as a list of lands applied for.

Q. He selected that one list out of all the papers in his office and showed that to you and said, "Here is a list."—A. No, I think there were others.

Q. What others?—A. I cannot tell; my recollection does not serve me.

Q. How is it that you come to recollect the Driggs list and do not

recollect the others?—A. There was a lot of canal company lists which he called attention to.

Q. What did he say about the canal company lists?—A. He simply said that these were canal lists.

Q. He took up a list and said, "This is a Driggs list," and he took up another and said, "This is a canal list;" is that it?—A. I cannot say that, he did just that but he called my attention to these things.

Q. Then he did something more than simply turn the office over to you, and say "take it"?—A. When I speak of the office I speak of the records in the office generally.

Q. I want to know from you again exactly what Mr. Edwards told you when he called your attention to this Driggs list.—A. I do not know that he told me anything.

Q. You recollect that the Driggs list was shown to you and the canal list and some warrants; was anything else shown to you?—A. I think there was some money in the office.

Q. Was there anything else that he showed to you?—A. Not specially that I recollect.

Q. Did he tell you why he felt sore?—A. At leaving his office; he did not say anything about it, but he acted as if he felt sore.

Q. Did he say anything about it?—A. No, sir.

Q. What did you say to him when he showed you the Driggs list?—A. I do not think I said anything.

Q. Did he show you the Driggs list and the canal list at the same time and in the same connection?—A. I do not think he opened the lists; he simply told me what was in the package, and gave me the package.

Q. Did he call attention to the plat books in that connection?—A. No, sir.

Q. What did you do with the Driggs list?—A. I did not do anything with it.

Q. What did you do with the plat books in connection with the Driggs list?—A. I did not do anything with them.

Q. When was your attention next called to the Driggs list or to the plat books in connection with the Driggs list?—A. I can only answer that from what would be my way of doing business in the office.

Q. When was your attention next called to the Driggs list or the plat books in connection with the Driggs list?—A. I do not know that it was called to them at all.

Q. You do not recollect ever, after that one time, seeing or hearing of the Driggs list or the plat books in connection with the Driggs list; is that so? Have you any recollection about that at all?—A. I cannot say.

Q. You can say whether you have any recollection about it?—A. I have not any recollection about it.

Q. Then all that you know about the Driggs list is that when you came into the office Edwards showed it to you and you never afterwards heard of it or had your attention called to it?—A. I do not want to be understood as saying that Edwards showed it to me. He spoke of it.

Q. Then he did not hand you a bundle of papers with that list in. Have you not testified that he did?—A. What I mean by showing it is that he did not take it out and read it to me.

Q. Now, I understand you to say that he referred to it?—A. He spoke of it.

Q. Which is it? Did he show you the list or did he call your atten-

tion to the fact that there was a list there?—A. He called my attention to the fact that there was a list there.

Q. What did he say?—A. I do not think he said anything about it.

Q. You have not said yet what he did say?—A. If my recollection serves me, he did not say anything else about it.

Q. You have not yet said what he did say? You said that he called your attention to the list, and I ask you what he said?—A. I cannot say that he said anything.

Q. Am I to understand that he called your antention to the Driggs list or that he handed you the list?—A. If my recollection serves me he spoke of it as among other things.

Q. Did he say with reference to that list what, if anything, he had done about it?—A. I should say not.

Q. Did he say to you what, if anything, he had done about the Driggs list?—A. I do not recollect.

Q. Do you know anything about those lands having been subsequently entered in the name of Sage?—A. What I have heard to-day is all that I recollect about it.

Q. What do you mean by that. Do you mean to say that you recollect what has been testified to here to-day?—A. Mr. Runnells says——

Q. Answer my question. Do you mean to tell me that you recollect what has been testified to to-day by Mr. Runnells?—A. I cannot say that that list was entered in Sage's name.

Q. Do you mean to swear that you recollect what has been testified to here by Mr. Runnells?—A. I recollect what he said.

Q. Do you recollect that what he said was what occurred?

Mr. PAYSON. Have you any recollection of the facts occurring there as Runnells' details them here to-day?

The WITNESS. I have not. I presume as far as he states——

Mr. PAYSON. You were asked whether, having heard him testify here to-day, you recollect that which occurred?

The WITNESS. I recollect that Sage entered lands, but I cannot tell what lands he entered.

M. PAYSON. The question is whether you recollect those lands being entered?

The WITNESS. I do not. I cannot say.

Q. Do you recollect what lands Sage did enter?—A. I do not.

Q. Or who entered them?—A. I do not.

Q. Do you reclect whether they were the same lands which had been entered up first in the name of Driggs and then in name of the canal company?—A. I do not.

Q. Did you ever have any conversation with Sage about them?—A. I do not think I ever saw Mr. Sage; I would say that I never did.

Q. Do you know who allowed the entry of those lands by Sage?—A. I do not.

Q. Who procured your appointment as register?—A. The first man I ever talked to about it was Senator Chandler.

Mr. REDINGTON. I did not ask you that.

Mr. PAYSON (to the witness). That is a plain question.

The WITNESS. I always understood that Senator Chandler did.

By Mr. REDINGTON:

Q. Who was President of the United States when you were appointed?—A. Andrew Johnson.

Q. And you think that Senator Chandler procured your appointment?—A. That is always what I have thought.

Q. What was the date of your appointment?—A. January, 1868.

Q. And you think that Mr. Chandler, the late Senator from Michigan, did it?—A. Yes.

Q. You think that he, on the 1st of January, 1868, procured your appointment as register by Andrew Johnson?—A. Yes.

Q. What makes you think so?—A. In June or July, 1867 (I think it was in July), I went to Senator Chandler and talked to him about an appointment up there. I did not go for myself. I had another gentleman in view for the office. I told him there was a good deal of dissatisfaction about retaining Mr. Edwards in the office, that the people were a good deal dissatisfied. He remarked to me, "That has come to me time and again, but (said he) Campbell, if you take the office, you shall have it." I told him that I did not want it, but that when the proper time came I would correspond with him and send the proper name; that I would send the name of a man who I thought would satisfy the people. I had that man in view. When the time came I went to the man and talked with him and asked him if he would like to be register of the land office at Marquette. He said "Yes." "But," said he, "you cannot remove Edwards." Said I, "My impression is that there will be a change, and if you want the office you can have it." I think he said, "I do not want to antagonize Edwards. He has promised that at the end of his four years he will go out and use his influence for me." He said he would not do anything in the matter. I went to my office and wrote to Senator Chandler that I would accept the position, and in reply to my letter I got a telegram that my name had been sent to the Senate.

Q. Have you got a copy of that letter which you wrote to Senator Chandler?—A. No.

Q. Have you got the telegram that he sent you?—A. No; I presume that it was burned up in 1868.

Q. When was this first conversation that you had with Senator Chandler?—A. I think it was in July, 1867.

Q. And you were appointed about the 1st of January, 1868?—A. Yes.

Q. About what time was it that you wrote to Senator Chandler that you would take the office?—A. About the 1st of January, 1868.

Q. And immediately you were advised by telegram that your name had been sent to the Senate?—A. I was advised of it within two weeks of the time that I wrote.

Q. And that is all that you know about it?—A. That is all.

Q. That is all that you know about the influence that procured your appointment?—A. That is all that I ever knew about it.

Q. Did you ever know that Driggs had anything to do with your appointment?—A. I think (in fact I know) that I talked with Mr. Driggs about it.

Q. When?—A. During the summer of 1867. I also had a talk with a member of Congress with whom I was well acquainted, Mr. Upson, from Coldwater, and had a talk with our member of Congress, Ex-Governor Blair. I talked with all these gentlemen.

Mr. PAYSON. With reference to yourself, or to this other man.

The WITNESS. With reference to the other man. I had no idea of taking the office myself.

By Mr. REDINGTON:

Q. Who was the other man?—A. Mr. James M. Wilkinson.

Q. The same who was afterwards receiver of the land office while you were register?—A. Yes.

Q. What other men besides Senator Chandler did you have conversation with in reference to your own appointment to this position?—A. With the men I have named.

Q. With reference to your own appointment?—A. No; Senator Chandler was the only man that I had any talk with in reference to my own appointment. I wrote to him. But they all told me that if I would take it they would use their influence for me.

Q. I think you said that you had a conversation with Senator Chandler?—A. Yes; during the summer of 1867.

Q. Then the conversation was not a letter?—A. The conversation was in reference to the appointment of the other man.

Q. But Senator Chandler said that if you wanted the office you could have it?—A. Yes.

Q. And you afterwards wrote him a letter that you would take it?—A. Yes.

Q. And thereupon you were advised of your appointment?—A. Yes.

Q. All the members of Congress that you saw on the subject told you the same thing?—A. Yes; they all said that if I would take the office they would use their influence for me.

Q. And that is absolutely all that you know as to your appointment to that office?—A. That is absolutely all that I ever knew about it.

Q. What did you come here for in 1867; what was your business?—A. I do not recollect that I was here in 1867.

Q. Where did you see Mr. Chandler in 1867?—A. In Detroit.

Q. You went to Detroit for the purpose of procuring the appointment of Wilkinson?—A. I was interested in the removal of Edwards.

Q. Why?—A. I had a special reason for it.

Q. What was the special reason?—A. I was in the office one day doing some business, and he had a young lady in there making maps and diagrams, and he talked to her in such a way that it really disgusted me.

Q. And thereupon you went to Detroit and saw Mr. Chandler, and endeavored to secure Edwards's removal?—A. No, I was in Detroit, and I saw Senator Chandler there during the summer.

Q. And the only reason that you had for desiring Edwards's removal was the manner in which he talked to this young lady?—A. A great many others complained.

Q. For what reason?—A. People found fault with him that he held lands for parties and was locating lands in his wife's name, and all that sort of thing.

Q. And you thought that by the removal of Edwards and the appointment of Wilkinson you would secure a pure atmosphere in the office?—A. Yes.

Q. Your efforts were thoroughly philanthropic?—A. Yes.

Q. You spoke of his conversation with this young lady and of the charge that he held lands out of market. Can you tell me any people who made such charges or what lands were held out of market?—A. I do not know that I can mention names, but the charges were general.

Q. You had no other grievance of any kind against him except this one?—A. No, I had not.

Q. Had you any other object in securing his removal?—A. I had not.

Q. Had you any object to serve in securing his removal and the appointment of Wilkinson?—A. I had not.

Q. When you were appointed had you any object in view in securing Edwards's removal?—A. I had not.

Q. You simply desired your own elevation to the place in order to purify the service. Is that it?—A. Yes, I suppose so. You may say so.

Q. Where did you have the conversation with these other members of Congress from Michigan, whom you spoke of. Tell me where that conversation was with each one of them?—A. I met Mr. Blair at Jackson, his home.

Q. When?—A. During the summer of 1867.

Q. Where did you have conversation with the others?—A. I think I met Mr. Upson with Mr. Chandler at the laying of the corner stone of the soldiers' monument in Detroit.

Q. Where did you meet anybody else?—A. I think that Mr. Driggs was there also.

Q. And you had a conversation with him about it?—A. Yes. We were all together.

Q. He told you the same thing?—A. Yes. I was well acquainted with them all.

Q. Do you not know that your appointment to the office was secured through the influence of Mr. John F. Driggs?—A. I did not know that fact.

Q. Do you not know that it was so procured, and that he so stated to different individuals during his life-time?—A. I never knew that fact until since I came back to Washington this last time.

Q. Do you not know that you were appointed to that office under the influence of John F. Driggs for the purpose of doing in that land office what Mr. Edwards had refused to do for this canal company?—A. I did not, certainly.

Q. Do you not know that Mr. Driggs, in his life-time, so stated?—A. I never knew it.

Q. Do you not know that Mr. Avery, the president of the canal company, so stated?—A. I never knew it.

Q. And there is no foundation for it at all?—A. I cannot say that.

Mr. PAYSON. So far as you know.

The WITNESS. So far as I know there is not.

Mr. REDINGTON. I may have done you injustice in a question that I asked you the other day, and as I do not wish to do that, I am going to ask you the question over again. In answer to questions asked you said that very few lands had been entered between the time you took the office and the date of the receipt of the letter of May 29, 1873 (I mean of lands within the 6-mile limits of the Ontonagon and State Line Railroad Company). I then asked you if you considered 5,000 acres of land as a very small amount, and you said you did. Now, the injustice that I did you was through looking at the wrong list. I now find that the quantity of land which you allowed to be entered on odd sections within the 6-mile limits of that grant was 12,711 acres, and I want to know whether you considered that a very small quantity of land.

The WITNESS. That was in the old limits—odd and even sections.

Mr. REDINGTON. Within the 6-mile limits, odd sections. Do you consider 12,711 acres a small quantity of land to allow within the 6-mile limits of that grant?

The WITNESS. From the business which the office was doing then, I would not call it a large amount. I have often had individuals take twice that amount.

By Mr. DAVIS:

Q. In this connection, did the land office, from the year 1868 down to the end of your term of office, do a large business?—A. It did.

Q. How many acres of land do you suppose were entered there in one year?—A. I cannot answer that question. We handled from 50,000 to

75,000 acres a month, and very frequently applications were made for over 100,000 acres a month.

Q. When the applications were made the parties made a written application to the office, did they not?—A. Yes; either by lists or in legal form.

Q. Which form you furnished them?—A. Yes.

Q. After an application had been made, how long was it, as a rule, before the party got his certificate, or what prevented him getting his certificate immediately?—A. It was not an unusual thing for parties locating large quantities (and that has been the case all the time, and, as I think, up to the present time) to have to wait sometimes three or four months before we came to their applications.

Q. What caused the delay?—A. The amount of business.

Q. That is, parties would make applications and file them in your office and they would be acted upon when they were reached in regular order?—A. Yes.

Q. And when the business in the office ahead of them had been first transacted?—A. Yes. I modify that by saying that usually where a man made one or two applications, and was a stranger, we would put his ahead, but as to those who we knew were not uneasy, and in whom we had confidence that they were going to take the land, we would let them take their regular order.

Q. Was it frequently the case that people who entered large lists of land or who were well known to you would file their applications, and that two or three or four months would elapse before they could get certificates?—A. Yes; and there have been instances of their having to wait for six months.

Q. Did that occur during your whole term of office?—A. Yes; from time to time. I would not say that we would delay any as long as six months, but two or three months was not an uncommon thing. I know that under my predecessor it has been sometimes as much as six months.

Q. They were acted upon as soon as they were reached in the regular order?—A. That was my order of doing business.

Q. I desire to call your attention to a letter on page 6 of the canal history—a letter written to the Hon. James Harlan, Secretary of the Interior, by J. M. Edmunds, Commissioner, and dated July 31, 1866, in which he says that he incloses to the Secretary of the Interior letter from H. Barnes, State agent, and that there had been a withdrawal of lands to enable the canal company to make its selections under the act of 1866.

Mr. PAYSON (to Mr. Davis). Is that the same withdrawal talked of, north of township 41?

Mr. DAVIS. No, sir.

Mr. PAYSON. What is your object in offering it?

Mr. DAVIS. Mr. Campbell stated yesterday that, at the time Professor Pumpelly was marking plat books, he thought the lands were not withdrawn from market. He thought that they had been restored to market, and I want to show that the lands were not withdrawn from market at that time.

Mr. PAYSON. You may consider the letter as in evidence, if it proves that.

Mr. DAVIS. The letter concludes as follows: "As the withdrawals under the act of March 3, 1865, and January 31, 1866, remain intact, a further order of withdrawal is not necessary, in the judgment of the office."

The letter was put in evidence and marked Exhibit No. 21.

By Mr. DAVIS:

Q. Having refreshed your memory by hearing this letter read, state whether at the time that Professor Pumpelly was marking the plats in the land office at Marquette with C and P, you were not mistaken when you said yesterday that the lands were not withdrawn from market?—A. I was, according to that version.

Q. You said something yesterday about Professor Pumpelly marking the even sections indiscriminately as he marked the odd sections. Do you desire to make any explanation in regard to that?—A. I do not know that I have any other explanation to make, except that whenever the canal company wanted to mark lands they came in and did it.

Q. Do you mean to say that Professor Pumpelly marked to the canal company even sections whenever he pleased, whether he afterwards took them or not?—A. I think he did, so far as I know anything about it.

Q. The even sections were not withdrawn from market by the act of Congress, were they?—A. No, sir.

Q. And the canal company had the right to select 50,000 acres from even sections?—A. Yes.

Q. Do you mean to be understood that Professor Pumpelly marked as many even sections as he pleased in excess of 50,000 acres?—A. I mean to say that he would come into the office and would file his memorandum lists and mark them.

Q. Of such lands as he selected on even sections?—A. Yes.

Q. On the odd sections he would mark whatever he pleased?—A. He would do the same on the even sections.

Q. Do you mean to say that he would mark lands on even sections in excess of 50,000 acres?—A. No; I do not mean to say that, but he might mark lands and afterwards conclude to take other lands.

Q. Would he mark lands over 50,000 acres, and subsequently change his mind and take other lands in their place?—A. Yes.

Q. As to the odd sections, do you mean to say that he marked any in excess of 100,000 acres?—A. Yes.

Q. But he did not do so in the even sections?—A. I do not know that he did.

Mr. PAYSON. That is what the witness testified to yesterday.

The WITNESS. That is what I mean by it.

By Mr. REDINGTON:

Q. About this order of business in your office, what do you mean by making an entry?—A. I mean by starting at the application, which is an application made in due form, putting it on the entry book, marking it on the plats, and posting it on the tract books.

Q. Do you mean to tell me that you took applications and held them in your office for six months in some cases before you entered them up on any book?—A. I presume we did.

Mr. REDINGTON. I am not asking what you presume, but what you did.

The WITNESS. I cannot say that we had any six months, but I know that we had them one, and two and three months.

Q. Am I to understand now from you that you took applications and let them lie in your office and never put them on any books at all for three months?—A. Except to check them with pencil upon the plat books.

Q. Then when you got ready you would make the entry?—A. When we got to them in their order.

Q. Do you mean to tell me that any land office was ever opened in this country where it took three months to do that in the ordinary line of business?—A. There was work enough ahead of the application made to-day, for instance, to take me from to-day three months to get at that application; and when I got to it, it had to take its turn.

Q. How many applications could you make and post in a day—I mean how many acres of land would they cover?—A. I think from 4,000 to 5,000 acres a day is all that a man can handle and do his best; and then he has got to work at night.

Q. Do you not know as a matter of fact that there could be entered on the tract books in any land office, in the ordinary business hours of the day, from one to two thousand applications?—A. I never could do it.

Q. Do you not know as a matter of fact that, in repeated instances where land offices were opened, and where public land was put in the market for the first time, from one to two or three thousand applications were posted up and entered on the tract books on the very first day?—A. I never heard of it.

Q. Do you seriously intend to tell me that the pressure of business in that office was such that at no time during your administration you could enter it upon the books within three months?—A. It has been.

Q. What became of the money that was due to the Government during that three months? Where was it?—A. It was deposited with the receiver, I suppose.

Q. What paper did he have on which he took the money?—A. I do not know.

Q. Did he take the money without any paper from your office?—A. Yes, sir.

Q. Suppose a man came into your office and handed you a list, and you marked it on the plat books, and laid it aside for three months until you got ready to enter it up; he then went and paid the receiver without anything to show what he did in your office; is that so?—A. Yes. A man will come and will apply for, we will say, $10,000 or $20,000 worth of land. When we examine his list, and he finds the land that he is going to get, and he finds out what amount of money it is going to take, he makes his application and goes to the receiver, and leaves the money with him to cover these lands.

Q. Without any paper from you?—A. Without any paper from me, and when the applications are through, he goes to the receiver, and the receiver issues his receipt and hands it to him.

Mr. PAYSON. And sends the money to the Government?

The WITNESS. And sends the money to the Government. It has been done so right along, and is done so to-day, I believe.

By Mr. REDINGTON:

Q. When does the receiver return that money to the Government?—A. As soon as the entry is made.

Q. Where is it between the time when the application is made in your office and the time that the money is returned to the Government?—A. In the receiver's hands.

Q. In this case, was not the money in the bank of which you were president, and Wilkinson cashier, or otherwise connected?—A. He always keeps his own account in the bank in the receiver's name.

Q. Then, during all this time that you were entering those 100,000 cres, you held the memoranda and applications in your office, and Wilkinson took the money, and the money was deposited in the bank. Is that so?—A. It was not deposited to anybody's account. He kept it in a box to his own account.

Mr. PAYSON. Do you mean to his credit on deposit?

The WITNESS. He does not use the money for anything. He has a special box of his own—a tin box which he keeps under a time lock in the steel chest.

By Mr. REDINGTON:

Q. And he kept the money there until he sent it to the Government?—A. Yes, sir.

Q.. Suppose you sold lands at the rate of 100,000 acres a day—you said that you had applications at that rate?—A. No; I did not say that.

Q. What did you say?—A. I said 100,000 a month.

Q. Do you mean to say that Wilkinson would hold in this box, in that bank, money received at that rate for six months before he made return of it to the Government?—A. I suppose so.

Q. What would happen, supposing one of these fellows came along before you made out his entry papers and said he did not want the land? What would you do?—A. I could not force him to take it.

Q. You would hand him back his memorandum, and he would go to Wilkinson, and Wilkinson would take the money out of this tin box and hand it back to him; is that it?—A. I suppose so.

Q. Is not that an admirable method of favoring the bank with the money?—A. The bank had nothing to do with the money.

Q. How much money do you suppose Wilkinson used to have in that box at any one time?

(Objected to, and objection sustained.)

Q. What was the first book which you put an entry in?—A. If it was a cash entry it went into the registry book. Then I posted it upon the plat books and in the tract books.

Q. I thought you had already marked the plat books?—A. No.

Q. That is a mistake. Do you say you did not mark the plat books first?—A. No entry was marked in the plat books, except in pencil-mark when we took the application.

Q. You marked it in pencil-mark first?—A. That has been the universel custom.

Q. When you came afterwards to make the formal entry you marked it in ink?—A. Yes; marked the number of the application.

Q. Then all that would be on the plat books, or the record of your office in any way to show that any person had applied for this land, would be a pencil-mark on the plat book?—A. That is all.

Mr. PAYSON. Until the entry was consummated?

The WITNESS. Yes.

By Mr. REDINGTON:

Q. If I wanted to make an entry I would not know that any application for it had already been made in the office?—A. No; not by looking at the tract book.

Q. An inspection of the tract book would not show it?—A. No.

Q. Nothing but an inspection of the plat book?—A. Yes.

Q. And that simply would show a pencil-mark?—A. That is so.

SAMUEL CHURCHILL sworn and examined.

By Mr. REDINGTON:

Question. Where do you reside?—Answer. In New York.

Q. How long have you resided there?—A. Thirty years.

Q. What is your present business or occupation?—A. I am without business.

Q. Do you know Ambrose Campbell, who was at one time register of the United States land office at Marquette?—A. I never knew him; I never saw him until I came here the other day.

Q. During his life-time did you know the honorable John F. Driggs?—A. Very well indeed.

Q. Did you during his life-time know Mr. Avery, who was president of the canal company?—A. Very well indeed.

Q. If you at any time had anything to do with reference to the appointment of Mr. Campbell to the office of register of the United States land office at Marquette, please state to the committee exactly what you had to do with it, and what you did in that connection.

(Mr. Davis objected to the question; objection overruled.)

A. In the winter of 1867-'68, I was spending the winter at Willard's Hotel in this city. I was in daily intercourse (there might be an exception once in a while of some week or two) with Mr. Avery, and with Mr. Porter, a gentleman from Michigan, who was here, acting, I think, as State agent to transact business in Washington for the State of Michigan; and with Judge Edmunds. They were particularly interested in canal matters.

Q. What position, if any, did Judge Edmunds occupy?—A. I forget now what his position was at that time. He was formerly Commissioner of the Land Office, and was afterwards postmaster in this city. And I was in almost daily intercourse with John F. Driggs. They were very much interested together in land matters. I had some little (more or less) interest with them. That was not my business here principally at that time. They came to me and wanted to know if I would not give them my aid and assistance in getting the appointment of a register of the land office at Marquette.

Q. Who came to you?—A. Mr. Avery, Mr. Driggs, and Mr. Porter, and I cannot be positive whether Mr. Edmunds talked to me about it or not. I enlisted myself, and told them I would give them what aid and influence I could to bring around that appointment. They told me, in order to induce me to take hold of it, that Mr. Campbell was a very proper and fit man for the place; that he was a capable, upright, and proper man; and on their assurances I represented him to the President as being a proper man for that position, and I urged his appointment. Whether other people went to the President in the matter or not I do not know. I went a second time to the President, called his attention to it, and urged the matter. I argued the case as well as I could on behalf of a gentleman whom I had never seen, but on the representations made to me by men of high standing and position. I found that the nomination was sent to the Senate, and agreeably to my expectations. Then the same parties came to me and wanted that I should go to the Senate and aid and assist them in getting the confirmation. I did so, and in due time the appointment was confirmed. That is briefly and concisely what took place. I do not claim that I was the only one—I do not know how many others were operating for the same purpose. I only speak of what aid and influence and assistance I could give them.

Q. What was the character of your relations with President Johnson, by whom the appointment was made?—A. My relations with Mr. Johnson at that time were very friendly; I saw him two or three times a week, especially in the evenings.

Q. Did any of these gentlemen, or all of them, say anything to you with reference to why they particularly desired you to solicit the appointment of Mr. Campbell?—A. After the appointment was confirmed

they were very much elated and very much pleased. They were so much so and they expressed so much satisfaction that the fact excited my curiosity to know why they took so much interest in the matter, particularly in behalf of Mr. Campbell more than his predecessor. Mr. Driggs and Mr. Avery both told me that Mr. Campbell was a man whom they could rely upon; that when they wanted things done in the office they could have them done, and that it was for their personal interest that they had been anxious to secure the nomination and the confirmation of Mr. Campbell.

Q. Did they in any of those conversations say anything to you in reference to their own ability to secure his appointment at the hands of President Johnson?—A. The matter was talked of incidentally; that at that time an old Democrat could have as much influence with Mr. Johnson as a live Republican.

Q. Those were rather stirring times?—A. Quite so.

Q. As a matter of fact, so far as you know, had Senator Chandler anything to do with the appointment?—A. Mr. Chandler was a friend of the canal enterprise, and did a good many things to help them; but in regard to the nomination and confirmation of Mr. Campbell, I cannot say one word, for I did not hear his name mentioned in that connection.

Q. Did he at that time have any influence at all at the White House?—A. On that subject I have nothing to say.

Question repeated.—A. I know nothing about his having anything to do with the nomination of Mr. Campbell.

Q. At that time were not the relations between Senator Chandler and the President very hostile?—A. I have no doubt they were.

GEORGE S. FROST sworn and examined.

By Mr. REDINGTON:

Question. Where do you reside?—Answer. Detroit, Mich.

Q. How long have you resided there?—A. About forty-five years.

Q. Were you at any time connected with the Portage Lake and Lake Superior Ship Canal Company; if so, in what capacity and at what time?—A. I was appointed State agent by Governor Baldwin to select a residue of lands to fill up the grant to the canal company in 1872.

Q. Who was then register in the United States land office at Marquette?—A. Mr. Campbell.

Q. When you took charge of the office, did you or not find any lists of canal selections then pending in the office, or on file in the office?—A. I went to the land office to make some selections of land, and in conversation with Mr. Campbell I think I asked him the question if there were any lands there which had not been entered. He showed me a list which had been made by my predecessor (who was Mr. Avery, the president of the company), and I asked him why they had not been entered. I do not recollect exactly his reply. I asked him if there was any objection to my adopting that list and making a new list in the ordinary form, and signing it myself and taking those lands. He said he did not know that there was any objection. I thereupon adopted that list as a part of my own.

Q. Did that list include any of the lands which have been already referred to during the course of this investigation as having been patented to Jesse Spaulding—lands lying to the south of township 41?—A. Yes.

Q. When was it that you made that selection?—A. I have not the data at hand, but I think it must have been in the latter part of 1872.

Q. D o you knowwhether, at the time you made that list (which was allowed by Campbell), any portion of those lands selected had been previous ly patented toJesse Spaulding, and the patents held by him?—A. Yes, sir.

Q. Then a portion of that list allowed to the canal company by Mr. Campbell included lands which had been previously patented to Jesse Spaulding, and the patents delivered?—A. Yes.

Q. What occurred in reference to that list when it reached the Department at Washington?—A. I was advised that there was a conflict. The first information I had was from the Land Office here that there was a conflict; and I think the list was returned to me, with the lands that were in conflict stricken out, and the balance of the list was accepted.

Q. With reference to that portion which was stricken out on account of the conflict, what eventually became of those lands?—A. I believe that Spaulding and Whitbeck retained them.

Q. Were you cognizant at any time of any settlement between Jesse Spaulding or Spaulding and Whitbeck and the canal company in reference to these lands?—A. Yes, sir.

Q. State what it was.—A. I was arguing the case. I had presented the case before the Secretary of the Interior, claiming that the lands belonged to the canal company, and that this interference was illegal. I had made my argument there and expected to get the lands, as I knew that the Department had canceled the Whitbeck and Spaulding entries and had ordered them to return the patents. I was then in correspondence with the office of the canal company; and, on consultation, the canal company concluded to compromise the matter and let Spaulding and Whitbeck retain the entries.

Q. And that was done?—A. Yes, sir.

Q. What amount of money was paid by the canal company to Whitbeck and Spaulding?—A. None.

Q. What amount was paid by Whitbeck and Spaulding to the canal company?—A. Twelve hundred dollars.

Mr. PAYSON. The patents were outstanding at that time in the hands of Spaulding and Whitbeck?

The WITNESS. Yes, not all of them. They had received a portion of the patents, and some of their lands were not yet patented and were canceled on the books of the Department, and a notification given to them that the lands were in conflict with canal selections.

By Mr. REDINGTON:

Q. Had you at any time any knowledge of lands being carried by the canal company in the name or for the benefit of John F. Driggs?—A. I cannot say that I had absolute knowledge of that fact, although I had heard of it. It had been reported to me, and I knew that there were lands held by Mr. Driggs. They had been put in my hands for sale, and I had attempted to sell them. I think Mr. Bliss had something to say about it; and my recollection is (in fact, I know) that I had some conversation with Mr. Driggs; but whether he ever told me that the canal company held the lands for him or not I cannot say. But I had that information from some source and was confident that such was the fact.

Mr. PAYSON. That the canal company held title to lands which equitably belonged to Driggs?

The WITNESS. Not the title; but that they had marked the lands on the books of the land office with the letter C, and that they were held for the benefit of Mr. Driggs. That is what I understood; but I had no absolute knowledge of it, because I did not look at the books to see.

Mr. PAYSON (to Mr. Redington). What do you claim as to that transaction?

Mr. REDINGTON. My proposition and argument is this: We propose to show and to argue that Mr. Campbell served the purposes of this canal company.

Mr. PAYSON. But as to this land south of township 40, as I understand the evidence, it is undisputed that before Mr. Campbell allowed any entries south of 40 to Spaulding and Whitbeck he sent to Washington for further instructions. Then came a diagram indicating the character of the land, its status, in colors. That diagram showed some land marked in yellow, indicating that that land was subject to private entry. Dealing with those maps thus colored, Mr. Campbell did allow these entries, and afterwards, when the fact was reported to the General Land Office, the General Land Office wrote to him that he had made a mistake, and canceled the entries. Then the contest arose between the canal company and the lumbermen as to which had the prior right to these lands.

The WITNESS. When I made the entries in that district, I understood at the land office that the lands were not in market.

Mr. PAYSON. I understand that. After the entries had been thus canceled, I understand that this witness, in going to the office, made the selection of lands which, prior to that time, had been conveyed by Campbell.

(Mr. Davis and Mr. Redington assented to that statement.)

Mr. PAYSON. If that is so, where is the question as to this land thus colored yellow, except as to the General Land Office?

By Mr. REDINGTON:

Q. During your service with the canal company, were you ever in the practice of going to the land office at Marquette and marking off indiscriminately any lands, either odd or even sections, that you wanted to take until you had made a formal list of them?—A. No, sir.

Q. Were you ever the agent or the attorney of any other canal company in the Northern Peninsula of Michigan?—A. I was the agent of the Sault Ste. Marie Canal Company, and selected its lands.

Q. Was any such privilege as that accorded to that company?—A. No, sir; not to my knowledge.

Q. Do you know whether anything of that kind was ever done in regard to any other corporation, railroad, or canal company in that country?—A. No, sir; I think that when a party is well known, as, for instance, a State agent, he would be allowed by the register more license than a person who was not known. I have frequently helped the registers in doing clerical work for them; but I never had access to the maps to mark them. I never had such a privilege, and I never expect to have such a privilege, if it is considered one.

Mr. PAYSON. What became of the contest in the Interior Department as to these Spaulding and Whitbeck lands?

The WITNESS. I dropped it immediately; I went no further with it. I felt that if it had been carried on we would have succeeded. I think I so stated to the officers of the company—I mean to the persons who were then representing the bondholders. Mr. Davis and another gentleman named Knox were the parties with whom I corresponded. I think I wrote to these gentlemen that I thought the canal company entitled to these lands, and that I would insist upon getting them. I met Mr. Spaulding. Mr. Spaulding thought that he was entitled to the lands; but rather than have any controversy about the lands at that

time, the canal company thought it better to make a selection of other lands.

Mr. PAYSON. Did you advise the Department that the matter had been compromised?

The WITNESS. I do not recollect; I do not think I did.

By Mr. DAVIS:

Q. You went to the land office to enter the residue of land for the canal company?—A. Yes.

Q. Do you recollect how large the residue was?—A. Something about 28,000 acres.

Q. Everything else had been done by the prior State agent?—A. Yes.

Q. And you found in Mr. Campbell's office a list of lands that had theretofore been filed by the former agent?—A. Yes.

Q. And you applied for those lands?—A. Yes.

Q. And several of those entries were rejected because they had been patented to Spaulding and Whitbeck?—A. Yes, sir.

Q. You thereupon advised with me?—A. Yes.

Q. I was one of the attorneys for the foreclosure?—A. Yes.

Q. The foreclosure matter was then proceeding in court?—A. Yes.

Q. In Detroit?—A. Yes.

Q. The old company had gone into bankruptcy?—A. Yes.

Q. And you advised me of the status of these lands, did you not?—A. Yes, sir.

Q. And you advised me to go on and fight the matter?—A. Yes.

Q. And you went on to fight it?—A. Yes.

Q. And it was decided in your favor?—A. It was not decided.

Q. Was it not referred to the Attorney-General by the Department?—A. Yes; and I think I went before the Attorney-General. My recollection is that the Secretary of the Interior had made his decision that the entries were proper; but still he wanted to submit the matter to the Solicitor-General, and I was in the act of arguing it before the Solicitor-General when the matter was ended by the compromise.

Q. Was not the matter referred to the Attorney-General March 11, 1874, to be referred by him to the Solicitor-General?—A. It may possibly have been. I have not looked at this document (the canal history) at all. I have not refreshed my recollection about it.

Q. Was the matter referred to the Attorney-General twice by the Department?—A. Quite probably.

Q. After the decision was made was not the matter compromised?—A. My recollection is that the matter had not been fully decided in the Department.

Q. But the opinion of the Attorney-General had been taken, had it not?—A. My recollection is that it was not taken; but still it may have been so.

Q. Then you had some correspondence with me about compromising it?—A. Yes.

Q. And Spaulding and Whitbeck proposed to pay a sum equal to the fees which it would cost us to re-enter new lands in the place of those lands?—A. I think that the sum was a little in excess of that. It was to cover some expenses and the fees.

Q. You were opposed to that settlement?—A. Yes.

Q. And I was in favor of it?—A. Yes.

Q. Do you recollect why I was in favor of it?—A. I do not know that I ever heard you say exactly why you were; but I supposed the reason to be that you did not want to go into a fight.

Q. At that time the construction of the canal had not been finished?—A. No, sir.

Q. And we thought it would be necessary to get other extensions from Congress in order to finish the canal?—A. Yes.

Q. Mr. Spaulding was a prominent politician?—A. Yes; very prominent.

Q. He is now the collector of the port of Chicago?—A. Yes.

Q. Do you recollect my saying that we could not afford to quarrel with politicians, and to have them exercise their influence in Washington against us? And do you recollect that Mr. Knox and I said we had better not get into this quarrel?—A. I think that that was the substance of it.

Q. Was not that the reason of the compromise?—A. I think so.

Q. You know all about land offices?—A. I cannot say that I do.

Q. You are an expert land agent?—A. I am willing that you should say so.

Q. If in a land office all the land in the Upper Peninsula from township 40 north, and all west from ranges 15 and 16, is withdrawn from market for the benefit of a canal company, and if the agent of the company goes into the land office, from time to time, and designates certain tracts with a C, or a P, or any other letter indicating that the canal company will probably want them, what damage does that do to anybody?—A. I cannot see, if the lands are withdrawn, that there would be any particular damage to any one in doing that; and yet I should not presume to do that myself.

Q. If it was done, what difference did it make to any one?—A. I do not see that it would make any difference.

Q. The only thing is when the company finally concludes what particular lands it will take that it is necessary to wipe out all the marks before the lands are restored to market?—A. Certainly.

Mr. REDINGTON. Suppose these marks are put upon even sections?

The WITNESS. That is a different thing.

MICHAEL V. MULLALY recalled.

By Mr. REDINGTON:

Question. You have already testified that you were conversant with the business of the local land office in Marquette?—Answer. Yes.

Q. Please tell me whether or not the plat-books of that office show any reservation or marking off of lands to the Portage Lake and Lake Superior Ship Canal Company in blue or red pencil, or in ink, which lands are now covered by entries in the names of other persons.—A. Yes.

Q. State whether those entries appear upon odd or on even sections.—A. They appear on odd sections.

Q. State whether there are any on even sections.—A. I do not know.

Q. State, if you know, whether in relation to lands in township 47, 41, and 47, 40, there are not lands marked on the books in ink as belonging to the canal company which were not subsequently taken, and were not included in the canal selections—lands which were finally taken by soldiers' additional claims?—A. Yes.

By Mr. DAVIS:

Q. These marks on odd sections, are they in blue pencil?—A. No, sir.

Q. In what are they?—A. In ink.

Q. I mean under other odd sections north of 41?—A. Yes; either in blue pencil or in blue ink.

Q. I do not refer to these two townships to which your attention has been called, but to other odd sections. You say that there are odd sections there on the plat books which are marked now with a C, which have been entered by individuals, and not by the canal company. Do you not say so?—A. Yes.

Q. Are these marked in blue pencil?—A. They are marked in blue. I cannot swear whether they are marked in pencil or ink.

Q. Have you any experience in marking plat books with a blue pen cil?—A. No, sir; I never mark plat books with a pencil.

Q. Have you ever tried to erase blue-pencil marks from plat books?—A. No, sir; you cannot take anything off plat books.

Q. Is it easy to erase blue pencil?—A. I judge it difficult to do so.

Q. You know that it is a very difficult matter to erase blue-pencil marks clean?—A. It is very hard to erase any colored pencil.

Q. Do you know how many odd sections are marked with a C in blue pencil?—A. No, sir; I do not know how many.

Q. You testified that you examined the tract books in the General Land Office here?—A. Yes, sir.

Q. Did you examine the limits of the Ontonagon and Brulé River Railroad on the tract books?—A. Limits are not on the tract books.

Q. You examined the lands within the limits, did you? Did you examine in the General Land Office the tract books or the plat books covering the territory through which the Ontonagon and State Line Railroad runs?—A. Part of them.

Q. State how these lands within the limits of the Ontonagon and State Line road are marked on the tract books, or the plat books, with reference to their being restored to market.—A. They are not marked on the plat books at all. There is no record of any railroad limits on the plat books. On the tract books I have not seen any reoffering of the lands.

Q. What mark is there on the tract books in reference to these lands?—A. There are three sections to the page in the tract books, and in some places two sections. Opposite each odd section within the 6-mile limits is the description of the road. If the land is within the common limits of the Chicago, Saint Paul and Fond du lac Railroad that description is carried out. In the common limits, in the odd sections (outside of the swamp lands), the entry is, "Grant to the Chicago, Saint Paul and Fond du lac Railroad at intersection of the Marquette and Ontonagon purchase." In the clear limits north of the common limits it reads, "Grant to the Chicago, Saint Paul and Fond du lac Railroad to Ontonagon."

Q. What else is there on the books?—A. At the end I think there is a notation in reference to the relinquishment by the governor of Michigan.

Q. Does it not say "Released by Governor Baldwin"?—A. I cannot say whether it is "released" or "relinquished."

Q. But it is either released or relinquished?—A. It is something of the kind.

Mr. PAYSON. Do you say that this is opposite each page?

The WITNESS. Yes, sir.

By Mr. DAVIS:

Q. Is the date of the relinquishment also given?—A. I think it is.

By Mr. REDINGTON:

Q. Have you had any occasion recently to examine the tract books, or any portion of the tract books in the Marquette land office, either by yourself or in connection with anybody else, for the purpose of determining whether any particular tracts of land had been marked up to the canal company, and not included in their list?—A. I looked over the tract books, but not to find out that information.

Q. Did you make, or did the person in conjunction with you make, at the time, any memoranda about it?—A. Yes; he made memoranda on his list.

Q. Look at this list [handing paper to witness] and see if it is the same list.—A. I would not want to swear to its being the same list; but it looks like his handwriting, and I think it is the list.

Q. Did you see any of those entries on this list made?—A. Yes; I saw him make all of them.

Q. Did you see him make those entries in this column here [indicating]?—A. Yes.

Q. On what information did he make them?—A. From the tract books and plats.

Q. Look at this list, and tell me what does that column show in reference to tracts mentioned.—A. Simply this: Here, for instance, is a southwest half entered by H. W. Sage, in October, 1871. It appears marked on the plat with a blue C and a small check mark in the shape of a cross.

Q. Run through this list and tell me whether you find any even sections there marked in that way.—A. Here is one—the east half of 47, 48.

Q. Then you did find some even sections marked so?—A. Yes; and in some instances some are erased. Here is one entry [indicating] partly erased.

Mr. DAVIS. On this same list I see in regard to the southeast tract of 11, 47, 7, that it is marked on the plat book C. J. M. Do you recollect that?

The WITNESS. Yes.

Mr. PAYSON. Is that one which you assumed had been previously marked C?

The WITNESS. No; it is entirely different.

By Mr. DAVIS:

Q. Who is indicated by the initials C. J. M.?—A. The entry is made in the name of C. T. Moore, and I suppose the clerk made a mistake in making the initials C. J. M.

Q. This paper reads, "Marks that appear on plat book. The letter C where it occurs plainly appears thus: C. X." Then, according to this list, itappears that on the plat book the west half of 13, 47, 8 is marked with H. W.?—A. Yes.

Q. From this list it appears that as to the southeast quarter of township 14, the tract is marked with the letter E, does it not?—A. Yes.

Q. And from the same list it appears that the plat book is marked as to the north half of the southwest quarter of section 6, with the letter E?—A. Yes.

Q. And that land appears to have been entered by H. W. Sage?—A. Yes.

Q. And it appears from this list that as to about fifteen 40-acre tracts they are marked on the tract books with a C; that has not been erased?—A. Yes.

Q. From this list it appears, does it not, that in regard to the north half of the northeast quarter of 31, part of which was swamp land, and part of which was entered by H. W. Sage, there is a mark of E on the plat books?—A. Yes.

Q. In other words, various tracts of land in this list entered by various individuals seem to have on the plat books various initials?—A. Yes, sir; according to this list.

Adjourned until to-morrow.

WASHINGTON, D. C., *April* 19, 1884.

Mr. Payson stated that in regard to the additional testimony of the lake captains, he had presented the question to the full committee, and that the full committee was of opinion that the testimony might be taken. He said that before doing so, however, he wished to examine Mr. Swineford.

A. P. SWINEFORD was therefore recalled.

Mr. PAYSON. What is the name of your paper?

The WITNESS. The Mining Journal is the name of the paper that I am connected with.

Mr. PAYSON. The attention of the committee has been called this morning to an editorial in this paper of the 5th of April, a slip of which I show you.

The WITNESS (after reading the newspaper slip). This is the first time I ever read the article.

Question. Has your attention ever been called to it before?—Answer. Something in connection with it since I returned to town the day before yesterday. I heard that the matter had been mentioned here in the committee, but I had not seen the article, and it was suggested to me that I should telegraph home and get a copy of the paper. I could not find it here. However, I have not done so.

Q. Have you any information or idea as to who the author of that editorial is?—A. I have not, unless it may be written by my partner and editorial associate.

Q. What is his name?—A. James Russell.

Q. Have you any idea or information as to the means of information which he had when this article was written?—A. I have not, except he took his cue from some daily papers in which he may have seen something of the kind. He certainly got nothing of the kind from me.

Q. Directly or indirectly?—A. Neither directly nor indirectly. I had no communication with him whatever in reference to the case before this committee since the proceedings commenced. So far as the paper is concerned, I have not written a line for it myself nor given any information for it, I think, during this present year. I made an agreement with my partners at the beginning of the year which released me entirely from editorial work unless I saw fit to do it. I want to say to the committee that I recognize merely from the back of this slip that it is probably cut from the paper with which I am connected, and I am very sorry that anything of the kind should have appeared in that paper. It certainly would not have appeared in it if I had been at home and knew anything about it.

Mr. PAYSON. The attention of the full committeee was called to it this morning. Of course, there is not an assumed fact in the statement

that is not an absolute falsehood, and I was instructed by the full committee to examine you in reference to it, with the view to determine what should be done in the matter.

The WITNESS. I am glad you have done so, because I want to set myself straight upon it. I presume it is considered that I am under oath.

Mr. PAYSON. Certainly. One swearing of a witness in an investigation is enough.

Mr. REDINGTON. Of course it is not necessary for counsel to assure the committee that they have had nothing to do with the matter. In fact this moment is the first time I ever saw the article, and the first intimation I had of it was from a remark made by my friend on the other side.

Mr. PAYSON. This article was sent to me by a friend who saw it, and who assured me that it had been copied by other papers in that portion of the country and asked me about it. You will notice that I am the "dear friend" of Mr. Davis. Of course it would be inferred from that that I am a costly friend; and as to the peculiar methods which Mr. Davis has the reputation of adopting, I do not know what that can mean except that he is a wealthy man.

The WITNESS. I cannot give any explanation of the word "dear." I am very sorry that any such statement was made in a paper with which I am connected.

Mr. PAYSON. Of course, with your absolute disavowal of any connection, directly or indirectly, with it, we must be content.

The WITNESS. My recollection is that the last editorial work I did for the paper was a compilation of the iron statistics for the year 1883. I do not think I have written a line for the paper since. I have two partners, one an editorial associate and the other the business partner, and they are equal partners with me in the concern. I have not written anything for the paper, nor dictated anything, nor left anything to be printed, except a copy of the resolution under which the committee is acting.

Mr. PAYSON. With reference to this matter, have you written anything to your associate about this investigation from which any such editorial could have been written?

The WITNESS. No, sir; most certainly I have not; and I do not see where he could have got any such idea, except he took his cue from some daily paper.

Q. Have you ever seen or heard of any daily paper which intimated that the relegation of this matter to a subcommittee was at the instance of Mr. Davis or anybody else?—A. I have seen some things pointing in that direction, but still not as broad, or nearly so, as that editorial makes it, by any means.

Q. Can you state the paper in which you saw it?—A. No, but I think it was in some Detroit papers that have correspondents here.

Mr. PAYSON. I can say that the relegation of the matter to a subcommittee was made on the motion of Mr. Oates, and it was only after the most urgent solicitation that any member of the subcommittee accepted his appointment on it. It was repeatedly refused by myself and by every member of the committee.

The WITNESS. I was so informed by Mr. Oates himself, and that is another reason why I could not be made responsible for any such statement as is contained in this paper, because I knew that such a statement would be not only unjust, but absolutely untrue. I should feel myself deserving of almost any punishment if I had been guilty of an

utterance of this kind myself, and I certainly will visit some contempt upon my partner when I see him for having made any such statement.

Mr. McCARTER. Before the examination of the other sea captains goes on, I desire to say that the opening of that door will make it proper for us to ask the privilege of calling witnesses on that same topic.

Mr. PAYSON. Of course.

LYMAN HUNT sworn and examined.

By Mr. MONTGOMERY:

Question. Where do you live?—Answer. Buffalo, N. Y.

Q. You are a lake captain, I believe?—A. Yes.

Q. How long have you been on the lakes?—A. Most of the time for the last thirty-two or thirty-three years.

Q. How long have you been engaged in the Lake Superior trade?—A. Seven to eight years—not successive years.

Q. When did you first commence the Lake Superior trade?—A. In 1871.

Q. From 1871 up to the present time while you have been engaged in that trade, between what ports have you been trading?—A. Between Chicago and Duluth, and intermediate ports.

Q. What vessel were you in command of in 1874?—A. The steamer Missouri.

Q. How long have you commanded her since 1874?—A. Including 1874, six years.

Q. And so you left her in 1879?—A. Yes.

Q. Did you then take the command of the steamer which you now command?—A. The year afterwards.

Q. What is the steamer that you now command?—A. The City of Duluth.

Q. Do you know anything about this Portage Lake Canal?—A. Yes.

Q. Have you had occasion to traverse it in your trade?—A. Yes.

Q. And have you done so since 1874?—A. Yes.

Q. State when you first went through this canal.—A. From my memory it was in July or August, 1874.

Q. How did you find it—what was its condition?—A. With a little trimming at that time we passed through without any particular difficulty.

Q. What was the draft of your vessel?—A. The trims that we ordinarily passed through with were at that time 9½ feet.

Q. Was she fully loaded?—A. No; I say with partial loads—trimmed.

Q. What is the tonnage of that vessel?—A. Six hundred and fifty tons net carrying.

Q. You encountered no real difficulty in the canal that season?—A. I am speaking of when the water was smooth and all that. When there was any sea on, of course, we had to stay in or stay out.

Q. Was that so with the Missouri when she was drawing 9½ feet?—A. That was the case.

Q. When there was a sea on you had either to wait outside or to stay inside?—A. Yes.

Q. Why did you have to remain inside or to refrain from trying to get inside?—A. On account of the shoalness of the water between the piers.

Q. When you speak of between the piers, do you mean from the shore

line clear to the crib, or where do you mean?—A. From the commencement of the canal proper to the outer end of the piers.

Q. That is about the shore line, is it?—A. Near that. That is about the straight line of the canal.

Q. That is said to be about 900 feet. Is that your judgment about the distance?—A. I do not know. I should think it was not so far as that.

Q. Did you ever encounter any bowlders there?—A. What I have heard said were probably bowlders. We have struck going out through where they afterwards dredged out bowlders.

Q. You are speaking now all the time about the Missouri?—A. I am.

Q. And about what draft of water?—A. Nine and a half feet. I know that we struck there the following spring very hard going out. That would be in 1875.

Q. Did you ever draw more than 9½ feet of water in the Missouri when going through that canal?—A. Yes; we have drawn more than that.

Q. How much is the most that the Missouri ever drew going through there?—A. Probably 11 feet.

Q. Has there ever been anything at the mouth of that canal which answers the purpose of a harbor of refuge?—A. There never has been anything of that kind. It is merely a thing of fancy.

Q. What is a harbor of refuge?—A. A place where we can approach and enter in any stress of weather (it matters not what it is) with perfect safety.

Q. And you could not do that in this canal, you say?—A. We cannot. It would be like running a vessel ashore if she were loaded, or partially loaded.

Q. What season did you take the command of the City of Duluth?—A. In 1881.

Q. Have you commanded her ever since?—A. Yes.

Q. State the incident which happened two years ago last spring.—A. We discharged most of our cargo at Hancock and Houghton. We got up to the upper end of the canal with a breeze from the northeast. The water was so shoal that we were detained there about twenty-four or thirty hours on account of the little breeze and the sea which the breeze made on account of the shoalness of the water.

Q. What was your experience when you got up to the shore line and tried to get out past the piers?—A. We barely forced her out by trimming her up to as light a draft as possible.

Q. How much water was she drawing at that time?—A. Not to exceed 10 feet—probably a little less.

Q. What do you mean by forcing her out?—A. We had all the steam on that we were allowed to carry, and we jumped her over the uneven bottom to get her out.

Q. Has it ever happened, in your experience as a navigator, that you were compelled to go around Keweenaw Point on account of the condition of the canal?—A. Yes.

Q. How often has that happened to you?—A. I have not had much experience in that way for the reason that I wait for the weather to become proper to enable me to pass through there. There is some shelter ninety or a hundred miles to the west of that.

Q. At what place?—A. At Bayfield or some of the island shelters.

Q. Does it happen frequently that you stay there?—A. It is a very frequent occurrence in the general trade up there.

Q. That is if you wish to undertake the passage of the canal, and if

the water is rough you have to wait until the sea subsides?—A. Yes; very commonly.

Q. You are compelled to do that?—A. We are.

Q. Do you remember the loss of the Manistee?—A. I do.

Q. When was she lost?—A. Last November.

Q. Where did you last see her?—A. Leaving Bayfield, Wis.

Q. Were you there with your boat at that time?—A. I was.

Q. Which boat left Bayfield first?—A. The Manistee.

Q. Where was she bound?—A. Her first point was Ontonagon.

Q. She was not bound for any place that would take her through the canal, was she?—A. Yes; the terminus of her trip.

Q. She would go through the canal?—A. Yes.

Q. But she would touch at Ontonagon first?—A. Yes.

Q. How long after she left Bayfield did you leave?—A. An hour and forty minutes.

Q. What kind of a night was it?—A. It was an intensely cold moonlight night.

Q. Tell the committee your experience that night until you got to the mouth of the canal.—A. I had a consultation before we left with the captain of an iron steamer alongside. We agreed that we should leave at a certain time so as to bring us to the ship-canal after daylight. The weather had been so intensely cold that we did not know but that the outer light-house might be covered with ice and the light extinguished. Likewise we did not want to go there in case of a snow storm. We left so as to be down at the canal some time after daylight. In the mean time the wind had sprung up and there was a very strong gale. It commenced at the southwest at first and got around to the south and east of south. The iron steamer (the China) passed in ahead. I checked our speed to let him in ahead.

Mr. PAYSON. Where?

The WITNESS. Into the canal, as I supposed that Portage Lake was frozen over. That is what I anticipated from the intense cold that we had had, being familiar with the country up there. The China passed in ahead of us. There was some little sea running, and we both struck heavily going in.

By Mr. MONTGOMERY:

Q. You were in sight when the China went in?—A. Yes; she was only a little way ahead of us.

Q. You could see her when she struck?—A. Yes. I thought from her appearance that she had struck, and I remarked to our mate, "I think she has brought up within the piers."

Q. You thought she was grounded?—A. Yes. They said that they were able to force her in, which I knew, of course. She got in ahead of us.

Q. That was in November?—A. Yes.

Q. When you speak about striking, what do you mean?—A. The sea would lift us and let us down on one spot, and the next sea would lift us and let us down again, and so on until we got out of the sea.

Q. What amount of water were you drawing that morning?—A. About 11 feet 3 inches.

Q. What depth of water is the most that you ever drew passing through this canal?—A. I think, probably, about 12 feet. I do not think we ever loaded deeper than that.

Q. From what direction was the storm that morning when you entered

the canal?—A. The wind was about south, or east of south, when we got along there. The strongest part of the gale was south, or southwest, until we got near the canal.

Q. From what direction as to the shore was the wind?—A. The wind was off shore all the night; that is, at the ship-canal.

Q. That, of course, would make quite a sea at the mouth of the canal?—A. Yes.

Q. Tell us another circumstance that happened to you in November, 1877?—A. There is one thing more in connection with this matter. The China grounded in the canal ahead of us and signaled us to be cautious in approaching. We answered and stopped. They worked their engine back for awhile and got her off. She was nearly in mid-channel. That was down toward the southeast end of the canal.

Q. Tell us the circumstance that took place in the month of November, 1877, at the time you lay in the canal most of the night?—A. Our last trip was late in November. We had two-thirds of a cargo to be delivered at Port Arthur, as it is called now, on the north shore of Lake Superior. We got up there to the upper end of the canal when there was so much wind and sea on (at least so much sea), that we came to the conclusion to lie there.

Mr. PAYSON. In the canal?

The WITNESS. Yes; of course we had a good deal of anxiety about improving every moment, as we had so many places to go to and it was so late in the season.

By Mr. MONTGOMERY:

Q. You were bound up to Lake Superior?—A. Yes; we were bound then to the north and west. The terminus of the trip would be to the west. I lay down and left strict orders with the watchman to go out to the pier at 12 o'clock and to come and report how the sea appeared to be. He reported and said there was quite a sea running. I told him to go out again at 2 o'clock, and he did so, and came and reported again that there was much sea, although it was running down. Shortly after that I took a lamp myself and walked probably half a mile and came out by the pier. It was all covered with ice. I investigated it thoroughly. I staid there awhile and came to the conclusion that I would take the chances of getting out. I did so on account of its being so late in the season, but I would not have done so otherwise. We struck very heavily several times getting out of the pier, but we should not have staid there at all if there had been a good safe channel to get out. The weather was not such but that we could have got along.

Q. How did your vessel behave going through?—A. I say she struck heavily several times in passing between the piers.

Q. How much water was she drawing then?—A. She was probably drawing about 10½ feet.

Q. Do you recollect the circumstance of the Manistee getting on (as you term it) a couple of years ago there?—A. I do not recollect the date, but I should say that somewhere about that time she got on there in the spring of the year.

Mr. MCCARTER. Are you speaking of your own knowledge or from hearsay?

The WITNESS. The agent of the line told me and the captain of the steamer told me.

(Mr. Payson decided that the testimony of the lake captains should be confined to their own actual experience.)

By Mr. MONTGOMERY:

Q. You say that there never has been a harbor of refuge there to answer the purpose. If there had been a breakwater built out half a mile or thereabouts across the mouth of the piers, would that have made a safe harbor of refuge? Suppose it practicable to build a breakwater out in that place, would it make a harbor of refuge?—A. If it was built long enough it probably would. Of course it would. Such things have been demonstrated in other places.

Q. State whether or not it is customary and habitual for navigators to load their vessels and to trim their cargoes with special reference to getting through this canal.—A. Yes; that has been the history of the canal navigation ever since it has been opened. There is one thing that I wish to say here. Take the Transit Line from Buffalo. A certain portion of the boats is partitioned off to take a partial cargo and to run directly through from Duluth to Marquette on account of the inability of the boats to pass through this canal. Another portion of the boats takes a certain portion of cargo to Duluth and comes down into Portage Lake, Hancock, and Houghton (the copper district) to finish their cargo as much as possible with copper. So that the trade has to be adjusted according to these things. There are worlds of evidence of it. It is a living thing all through that trade and country—just what I speak.

By Mr. REDINGTON:

Q. Suppose you were to load a cargo for Duluth and propose to go through this canal, to what depth of water would you load your boat; that is, how much would you load her to draw?—A. That would depend upon the time of the year. It is almost invariably the case in the spring of the year that it is sometimes impossible to get in or out of the canal; and then again with trimming and at the risk of straining the vessel and all that sort of thing, some of us manage to get through there, while some of us are not able to get through at all. That has been the experience of all of us mostly every spring of the year.

Q. Suppose at the opening of spring navigation your first load was a load of through freight to be carried through to Duluth, how deep would you load your boat with an expectation of getting through this canal?—A. Nine and a half feet I suppose would be the prudent thing, and it would be questionable whether we would get through then or not. Of course we could not know what the water would be until we took soundings. Sometimes the depth is 9½ feet and sometimes 10 feet.

Q. Answer that question now with reference to the most favorable time of the year—say in the middle of the summer, to what depth would you load?—A. Twelve feet.

Q. What is the extra expense to a vessel bound down from Duluth in passing up around Keweenaw Point instead of using the canal?—A. That depends upon the running expenses of the craft; probably with us it would make a difference of $150; from that to $175.

Q. Over and above the tolls that you would pay in the canal?—A. Say $150 over and above the tolls. This is an approximate amount.

Q. And every time you go up around Keweenaw Point it puts you to the expense of, say, $150 over and above the tolls—which expense you would not be at if you could have got through the canal?—A. Yes.

By Mr. DAVIS:

Q. And every time you go through the canal, then, you save $150?—A. We claim to save something, but we do it by paying for it.

Q. Over and above the tolls you save about $150 every time that you go through the canal?—A. I so stated. That is the dollar point.

Q. How long did you command the Missouri?—A. Six years.

Q. Commencing when?—A. In 1874.

Q. Did you command her for the next six years?—A. I commanded her for six successive years.

Q. You went through this canal first on the Missouri in 1874?—A. I did.

Q. Do you remember how often you went through it on the Missouri?—A. I cannot tell you now.

Q. Did you go through on the Missouri as often as five times?—A. I say I cannot tell you now.

Q. You went through every time that you had business to go through?—A. Yes [after a pause]. No; I did not. I had to run by there.

Q. Where?—A. I remember running by there. I do not recollect the year but it was in a severe gale of wind. I had to run by and go back into Portage Lake.

Q. Run by from which side?—A. From the outside.

Q. From the Keweenaw Bay side or from the Lake Superior side?—A. What we would call the outside or Keweenaw Point side.

Q. Were you on the Lake Superior side or on the Keweenaw Bay side when you ran by?—A. On the Lake Superior side.

Q. And you had to run back where?—A. We went around Keweenaw Point and up Keweenaw Bay, and up Portage River.

Q. How often did you go around Keweenaw Point rather than go through this canal when you commanded the Missouri?—A. No oftener than I was compelled to.

Q. How often was that?—A. I cannot tell from recollection.

Q. Did you ever do it more than once while you commanded the Missouri?—A. Yes.

Q. Twice?—A. I have laid by in other places.

Q. Did you go around Keweenaw Point more than twice?—A. Yes; I have been around several times.

Q. How many times in six years?—A. I cannot tell how many times.

Q. About how many times?—A. It may have been a dozen times.

Q. Do you swear that you have been around Keweenaw Point a dozen times because you could not go through this canal on account of stress of weather?—A. I can plainly tell you this, that when there is any kind of rough weather we cannot get into the canal; but as to confining myself to exact numbers here I am not prepared to answer.

Q. How often do you swear you have gone around Keweenaw Point, and gone into Portage entry rather than go through this canal because you could not get into the canal on account of shoalness of water during the six years that you commanded the Missouri?—A. I am not prepared to answer that question.

Q. You are not prepared to say how many times you did it?—A. No, sir; not in mathematical numbers.

Q. Or in any other kind of numbers?—A. I probably could answer it by going home and referring to all my log books in years past.

Q. Did you go through the canal in 1875 on the Missouri?—A. I did.

Q. How many trips did you probably make on the Missouri in 1875?—A. Eleven or twelve.

Mr. PAYSON. Do you mean round trips?

The WITNESS. Yes, complete trips, starting from Chicago.

By Mr. DAVIS:

Q. In 1875 where did you run to from Chicago?—A. To Duluth and Bayfield.

Q. And did you deliver cargo at Houghton and Hancock?—A. Yes.

Q. Did you go through the canal twelve times in 1875?—A. Yes; probably more than that.

Mr. PAYSON. Do you mean that many round trips?

The WITNESS. When we leave Chicago and return we call that a round trip. We might pass through the canal going west, and returning east we might not pass through it. Other times we might pass through both ways.

Mr. PAYSON. So that when you say the number of times that you passed through the canal you mean round trips. If you say six times you mean six times up and six times back?

A. Yes.

By Mr. DAVIS:

Q. In 1875 the Missouri traded between Chicago and Duluth?—A. Yes.

Q. What business she had to do with Houghton and Hancock she did?—A. Yes.

Q. What freight had she on her way back, as a rule?—A. We usually had small loads of freight to pick up at various points along the way on our return.

Q. In other words, in 1875 was it not your business after you had gone through the canal and gone to Duluth to go directly down without stopping at Hancock?—A. It was not. The largest part of our trade was with Hancock and Houghton.

Q. In 1875?—A. Yes.

Q. On your way down?—A. Not on our way down.

Q. On your way back from Duluth to Chicago did you have any business at Hancock and Houghton in 1875?—A. We did.

Q. Did you stop there on your way down on any of your trips?—A. We did, on a great many of them.

Q. In 1875?—A. Yes.

Q. And you are as sure of that as you are of anything else you have testified to, that is that in 1875 you stopped on your trips from Duluth going south at Hancock and Houghton?—A. I am very sure that we stopped there at different times, and I think I can find my record of it at home.

Mr. DAVIS. We have a record here [meaning the list produced by Mr. Pryor].

The WITNESS. We passed through that canal many a time without Mr. Pryor knowing anything about it until we paid our toll bills. We could have cheated him several times if we had been dishonest.

Q. But you did not do it?—A. No.

Q. But the record of tolls paid in 1875 will show, will it not, the number of times that you passed through the canal?—A. I do not know that. Some of these tolls went over until the following year.

Q. The record of the number of times that you paid toll in 1875 will show the number of times that you went through this canal, unless you

cheated the canal company?—A. Some of the tolls may have passed on to the next year. I know that some of them did.

Question repeated.—A. The payment of our tolls was in charge of our clerk. But I know that a portion of the tolls passed over from one season to the next.

Q. You paid tolls every time you went through the canal, did you not?—A. That matter was left with our clerk.

Q. You know whether you did or not?—A. I did not keep the books.

Q. Do you not know that you paid toll every time that you passed through that canal?—A. I say I did not keep the books.

Q. Answer the question.—A. I did not keep the books.

Q. You know whether you did or not pay toll every time that you went through the canal?—A. We did our business honestly so far as I know.

Q. Did you pay toll every time that you went through the canal?—A. I tell you that I did not keep the books. We employed a man to keep the books.

Q. Do you know whether he paid tolls or not every time you went through the canal?—A. He had his instructions to deal honestly with everybody.

Q. Do you know whether he paid them or not?—A. I was not keeping the books.

Q. Do you know it, or do you not know it?—A. It is not supposed that I could keep the books and sail the vessel.

Mr. PAYSON. But Mr. Davis asks you if you know, as a matter of personal knowledge, that the tolls were paid every time that you passed through.

The WITNESS. When we were through with the business there, no claims came up against us.

By Mr. DAVIS:

Q. Do you know that you paid tolls every time you went through the canal, or do you not know it?—A. They were not paid every time; they went over sometimes.

Q. Were they ultimately paid?—A. No claims came up after we got through with our business in that country.

Q. Do you know whether you paid tolls every time that you went through that canal?—A. I have answered that question.

Mr. DAVIS. You have not.

The WITNESS. I have told you that no claims came up against the vessel after we got through our business.

Q. Do you know whether the tolls were paid or not?—A. I told you that we have been through there without Mr. Pryor knowing it, and that we might not have paid tolls.

Q. But did you not always report after you got through?—A. We reported trips that he did not know of.

Q. Did you always report all the trips that you made through the canal?—A. We did, by paying tolls.

Q. Did you pay tolls every time you went through the canal?—A. Not every time we went through.

Q. Ultimately you did?—A. I told you that long ago.

Q. Do you recollect how many round trips you made in 1876?—A. I could tell you if I had my log-books.

Q. Can you tell me now?—A. Probably eleven or twelve.

Q. Did you go through the canal every time?—A. I cannot say whether we passed through there every trip. Portion of the time we did.

Q. Did you go through there as many as ten trips?—A. I cannot say.

Q. Did you go through the canal in 1877?—A. We did a portion of the time.

Q. How often did you pass through the canal in 1877?—A. I am not prepared to answer.

Q. How many trips did you make during the season of 1877?—A. Probably ten or eleven.

Q. And how many in 1878?—A. I was not trading there in 1878.

Q. How much water did the Missouri draw when loaded?—A. Sometimes 12 and sometimes 12½ feet.

Q. What was her loading line?—A. Twelve and 12½ feet.

Q. During the six years that you commanded the Missouri how much water was there over the sill at the lock of the Sault Ste. Marie Canal?—A. We loaded as deep one year as 13 feet.

Q. And passed through the Sault Ste. Marie Canal with that draft?—A. Yes.

Q. When did you stop commanding the Missouri?—A. I stopped running there at the end of the season of 1877.

Q. Did you ever come through the Sault Ste. Marie Canal before 1877 drawing more than 12 feet of water?—A. I did, drawing 12½ feet.

Q. Through the Sault Ste. Marie Canal?—A. Yes.

Q. Did you strike in going through?—A. We got through safely; we probably rubbed some.

Q. Rubbed where?—A. Below the lock sometimes.

Q. Did you not rub going in and out of the lock?—A. Sometimes a little.

Q. Did you not know that there was but 12 feet of water over the sill in the Sault Ste. Marie Canal up to 1880?—A. You probably know a good deal more about it than I do. I was running there all the while for four successive years, and I know a little of what I am talking about. This same vessel that I am in now was published in the papers as carrying the largest cargo that ever passed through the Sault Ste. Marie Canal.

(Mr. Davis objected to any statement about newspaper articles. Mr. Payson directed the witness to confine his testimony to his own positive knowledge.)

By Mr. Davis:

Q. Do you know how much water there was over the miter sill in the Sault Ste. Marie Canal up to 1880?—A. It varied according to the stages of the water. There was no uniform stage.

Q. What do you mean by the "stages of the water"?—A. I mean that the water varied during the seasons.

Q. How much?—A. Sometimes we could load at 11½; and I went up during the four years I speak of (from 1874 to 1877) when there was 13 feet of water over the miter sill.

Q. What year was that?—A. I do not recollect the year.

Q. Was it before you left the Missouri?—A. Yes, sir; it was before I left the Missouri.

Q. Do the same influences that cause that rise and fall in the Sault Ste. Marie Canal operate in the same way on the Portage Lake Canal?—A. The water varies there. Of course, there are times when the water is higher than it is at other times.

Q. Was 1876 a year of high water or of low water?—A. I have just told you that I do not recollect the year when there was the highest stage of water.

Q. In going through this canal on the Missouri, do I understand you to say that you ever struck bottom?—A. Yes; we struck several times.

Q. Where did you strike?—A. Between the piers after leaving the entrance of the canal.

Q. How much water was the Missouri drawing then?—A. In one instance I remember that she struck when she was hardly drawing 9½ feet.

Q. What year was that?—A. I cannot tell.

Q. What time of the year?—A. In the spring of the year.

Q. Early in the spring?—A. Probably the second trip.

Q. That would be about when?—A. It would be about the latter part of May, or the fore part of June.

Q. Do you not know that the canal between the piers fills up every winter more or less with sand?—A. Of course I know it.

Q. Do you not know that Mr. Pryor, the agent of the canal company, commences dredging there every spring as soon as he can commence work?—A. I know that he commences dredging, but not as soon as he can.

Q. How do you know that?—A. By being up there.

Q. What time do you think he could commence dredging?—A. It is generally understood among us that he could commence dredging there earlier than he does.

Q. What do you know about it?—A. I know that when the ice disappears so that we can pass through, he certainly ought to have a dredge up there and go to work.

Q. Does he not do that?—A. I know he has not done it.

Q. What year did he fail to do that?—A. About every year, according to my recollection and experience.

Q. You think that every year he did not commence the dredging as soon as he might?—A. I do.

Q. Can you name the time when you think he did commence in those years?—A. I cannot; I have no record of his commencing dredging. I was sailing my vessel, not keeping track of Mr. Pryor's business, or the time of his commencing dredging.

Q. Then in the spring of the year before the dredging commenced you have struck with the Missouri between the piers, have you?—A. Yes; I have.

Q. Can you name the years when you struck there on the Missouri?—A. In my direct examination I stated that the last trip in 1877 I struck there very hard in going out.

Q. Can you recollect when you first struck with the Missouri in going out?—A. Eighteen hundred and seventy-five was the first that I have any recollection of striking hard there, and we were drawing but little water then.

Q. That was in the spring of 1875?—A. Yes.

Q. That is the first recollection that you have of striking there?—A. Yes.

Q. When did you take command of the City of Duluth?—A. In 1881.

Q. She is a larger vessel than the Missouri?—A. Yes.

Q. Is she a vessel of deep draft?—A. Yes; when loaded.

Q. How much water does she draw?—A. When loaded to her carrying capacity, she draws on even keel 13½ feet. The way we trim her, she would be 14 feet aft and 13 feet forward.

Q. You could not get her through a canal 14 feet deep when she draws 14 feet of water, could you?—A. Not very well.

Q. What is her draft at the load that she ordinarily carries?—A. In

answer to that I will say this: that in loading her at Chicago with full cargoes for this western bound trade we have to load her so as to discharge a portion of her cargo before she gets to Portage entry, so as to avoid getting on and fetching up in the channel.

Q. How much water is there in the Portage Lake Canal?—A. Sometimes 13 feet, and sometimes 12½ feet.

Q. You cannot get through the Lake Superior Canal unless you get through the Portage Canal, can you?—A. A good many times we get through Portage River when we could not get through the other.

Q. But you cannot get through the one without getting through the other?—A. No.

Q. When you load at Chicago you take freight for Marquette?—A. We take freight for the Sault Ste. Marie.

Q. That is the first place you come to?—A. No; we take freight for Mackinaw and points on the Sault Ste. Marie River; for Bay Mills, and sometimes for Grand Island, and Marquette, and other places.

Q. All these places are before you get to Portage Lake?—A. I can tell you a lot more of places.

Q. You take freight for a good many places that lie between Chicago and Portage Lake?—A. Yes.

Q. And then you take freight for Houghton and Hancock, do you not?—A. Yes.

Q. And after you have unloaded all this freight you go through the Lake Superior Canal?—A. Yes.

Q. And then where do you go to?—A. We go through to Duluth, Bayfield, and sometimes Ashland.

Q. And you unload your freight there?—A. Yes.

Q. That completes your trip, does it?—A. It completes half of the trip.

Q. Then you load, turn round, and go back?—A. Yes; we partially load.

Q. You take all the freight you can get?—A. Yes; we take part of a load at Duluth, and sometimes we take nothing.

Q. You take all that you can get, do you?—A. Yes; but sometimes we do not get anything.

Q. You take all that is offered to you?—A. Yes; for Chicago and Milwaukee.

Q. Then you go on, and go through the canal again, and get all the freight that you can for Chicago?—A. Yes.

Q. On the way up from Chicago you take all the freight that is offered you, do you?—A. No; we do not. Sometimes we cannot.

Q. Why?—A. Because we are loaded.

Q. You take as much freight as is offered to you as you can load?—A. Yes.

Q. And you go on and distribute it at different points?—A. Yes.

Q. Suppose you had a full load from Chicago to Duluth, would you go through the canal?—A. No; we could not get through.

Q. Would you go round by Keweenaw Point?—A. Yes.

Q. Suppose you could get through if you had a full load from Chicago to Duluth, would you go through the canal?—A. There will be times when we would go through.

Q. If you had a full load from Chicago to Duluth, would you go through the canal, even if you could get through?—A. There are occasions when we would.

Q. What occasions?—A. Occasions of bad weather.

Q. In ordinary weather would you go through the canal if you were fully loaded from Chicago to Duluth?—A. No.

Q. In bad weather (except it was a gale which endangered your vessel) would you go through the canal, if you had a full load from Chicago to Duluth?

The WITNESS. What do you mean by bad weather?

Mr. DAVIS. I mean in rough weather, unless it was blowing so as to endanger your vessel, would you go through the canal?—A. No.

Q. Now we come to the City of Duluth. Are there any peculiarities about the City of Duluth, or about her draft or manner of steering?—A. I do not know that there are.

Q. Is she an awkward vessel to handle?—A. She is not.

Q. Is she an easy vessel to handle?—A. Fairly so.

Q. You took command of her in 1881?—A. Yes.

Q. And with the Duluth you are trading between what points?—A. Between Chicago and Duluth and intermediate points.

Q. What became of the Missouri?—A. What has that got to do with this? I do not know what has become of her. She is in the lumber trade, I believe.

Q. You do not feel very friendly towards this canal, do you?—A. Yes, I do; when it is in good shape.

Q. Then you feel unfriendly towards it only when it is in bad shape?—A. If we had a canal there that we could use in all kinds of weather as a harbor of refuge we should be heartily pleased with it. We pay for this canal, you know, and we would like to have what we pay for. I mean we pay tolls. And I want you to understand that I have been contributing to this canal personally ever since I traded there.

Q. How do you mean that you have been contributing to it?—A. I have been part owner in the line.

Q. And you always paid toll in going through the canal every time that you went through it?—A. There is your custodian right over there [indicating Mr. Pryor.]

Q. Have you always paid the tolls in passing through that canal?—A. I answered that question long ago.

Q. How many trips did you make in 1881 on the City of Duluth?—A. I think eleven or twelve.

Q. Did you have occasion to go through the canal that year?—A. I did.

Q. Do you know how many times you went through the canal?—A. I cannot tell you.

Q. Did you go as many as fifteen times?—A. More than that probably—counting them each way.

Q. Suppose when you commanded the City of Duluth that when you had gone through the canal, and gone up to Duluth and loaded there, and had no load for Hancock or Houghton, would you on your trip down go through the canal?—A. Yes, if the vessel was loaded so that it could go through there.

Q. Suppose you had no business at Hancock or Houghton, would you go through the canal on your down trip from Duluth to Chicago?—A. No.

Q. Is it not a fact that your line carries lumber from Ontonagon to Chicago?—A. Yes.

Q. Do you carry lumber on your down trip from Duluth to Chicago?—A. I carried one or two loads three or four years ago.

Q. What did you carry from Duluth to Chicago—grain, provisions, and flour?—A. We carried a few packages of grain.

Q. What is your principal freight from Duluth to Chicago?—A. Our principal freight is buffalo hides.

Q. Is there much business on the way down between Hancock and Houghton and Chicago?—A. I get a good deal of freight there during the year in the way of hides and miscellaneous freights.

Q. What kind of hides?—A. Beef hides, and in tallow and copper. I get quite a bit of copper from there.

Q. Does your line not frequently load with lumber at Marquette?—A. Not often. We have loaded with some lumber there.

Q. Is it not a fact that you frequently go from Duluth, on your down trip, without stopping at Houghton and Hancock?—A. No, sir.

Q. You do not frequently do that?—A. Not the boats of our line.

Q. Do you not frequently do it on the City of Duluth?—A. No, sir; not when we can go on through there.

Q. Do you recollect how many times you went through the canal in 1882?—A. I do not recollect.

Q. You commanded the City of Duluth in 1882?—A. Yes, sir.

Q. And you cannot tell how often you went through the canal in 1882?—A. Not from memory.

Q. Do you think you went through as many as eighteen times?—A. I cannot tell you.

Q. When you are drawing 11 feet of water, and there is a heavy sea outside between the piers, how much water do you need under you to keep from striking the bottom?—A. We ought to have 4 or 5 feet in a heavy sea.

Q. Then, if you were drawing 12 feet of water, you should have a depth of from 16 to 17 feet?—A. Yes.

Q. What would you think of a lake captain's knowledge of the matter who testified that you needed only 1 or 2 feet in a heavy sea?—A. He might not need so much as I would.

Q. What would you think of his capacity to judge in the matter?—A. Probably he did not give it the thought that he ought to.

Q. How long is your vessel?—A. Two hundred and seven feet keel in other words, between perpendiculars. That makes her something like 220 feet over all.

Q. What is her width?—A. Thirty-six feet beam.

Q. Can you give an idea how high a sea is in an ordinary gale there between the piers?—A. In a heavy gale there, what we would call a strong gale, the sea runs right over the piers.

Q. How high is that?—A. The piers may be from 6 to 8 feet above the ordinary level of the water.

Q. And in a fresh gale of wind the waves dash all over the piers?—A. Yes; they break all over them.

Q. Have you any idea of what the rise and fall of the vessel is in such a gale as you have described, when the waves rise 8 feet high? Do you know how much the rise and fall is calculated to be by the authorities?—A. I never have seen any scientific demonstration of it.

Q. It is only a mere matter of opinion with you?—A. Yes.

Q. And your experience or opinion is that with such a vessel you rise and fall how high?—A. The roll of the sea varies according to the intensity of the wind.

Q. Suppose you have between the piers 17 feet of water, and you come in, drawing 12 feet, and there is a gale which makes a wave 8 feet high, breaking over the breakwater, how much water do you need to get in there without striking the bottom?—A. You are trying to make my answers conform to your questions, or to make your questions conform

to my answers. I said that the sea breaks over these piers. I did not state that the waves were 8 feet high, or anything of the kind.

Q. When a sea breaks over the piers how much water do you need going in there drawing 12 feet?—A. We should have 16 or 17 feet of water there with a strong gale of wind.

Q. By a strong gale of wind do you mean a gale which endangers the safety of a vessel?—A. I mean a gale of wind, or any stress of weather in which you would want to make that place.

Q. You have very severe gales of wind on Lake Superior, have you not?—A. Yes.

Q. Much more severe than what you would denominate a strong gale?—A. Yes.

Q. What kind of a sea is there in such a gale off the shore of Lake Superior?—A. That depends upon the direction of the wind.

Q. With the wind from the northwest or the northeast, or the north, or anywhere, except off shore?—A. Then there is a very nasty sea running there.

Mr. PAYSON. Take a gale of wind on the lake of such intensity that you would not fear to navigate the lake itself, without saying how high the rise and fall of the waves are, how much depth of water should there be at the mouth of the piers for you to enter the canal in safety, as far as depth of water is concerned? I speak of an intense gale, but not of a gale of such intensity as that you would fear to navigate the lake.

The WITNESS. I should put it about from 16 to 17 feet of water.

By Mr. DAVIS:

Q. Suppose there is such a gale that you would want to run in as a harbor of refuge, what depth of water would you want?—A. That depth will do.

Q. Then it does not make any difference how hard the wind is blowing; is that your answer?—A. That is it; I am speaking of a boat with a 12-foot draft of water.

Q. Suppose the City of Duluth is loaded to 11 feet, and is going through the canal, how much space does she occupy in the canal in width?—A. She occupies her 36-feet beam, and about 4 feet besides.

Q. What makes the other 4 feet?—A. We have a fore and aft fender wale on each side, and up and down fender wales on each side.

Q. So that, including fenders and everything else, she occupies about how much space?—A. About 40 feet.

Q. And another vessel of the same capacity, equally loaded, would occupy the same depth?—A. Certainly.

Q. Why could not two such vessels pass each other in this canal anywhere that the canal is 100 feet wide?—A. They can, if there is water enough.

Q. How much water do you need if they are drawing 11 feet?—A. I would want that depth for 80 feet, certainly, and a little bit to spare—just a foot on each side.

Q. That would be 82 feet?—A. Yes.

Q. Does not a vessel draw more water where the keel is than at any other part of the vessel?—A. A little more.

Q. From the keel there is a sheer, is there not?—A. No, sir.

Q. What do you call it—a dead rise?—A. Yes.

Q. A vessel does not draw as much water 2 feet above her keel as she does at her keel?—A. Some of the vessels draw nearly as much.

Q. Does the City of Duluth?—A. No; she does not draw as much.

Q. Suppose the City of Duluth is drawing 11 feet at her keel, how much would she draw 4 feet above her keel?—A. I do not know what her dead rise is to the foot—possibly an inch. The keel would probably average a little lower than the floor of the vessel, but these vessels rub on the bottom so much that they get the keel rubbed off so that it is as smooth as a plank.

Q. Is the City of Duluth a smooth-bottomed boat or a keel boat?—A. She did have a keel, but she is smooth now.

Q. When did you see her bottom last?—A. A few days ago.

Q. Did she have a keel then?—A. Not much of a one.

Q. Was it all worn off?—A. Pretty much worn to the plank.

Q. What wore it off?—A. You know very well that it was rubbing on the bottom; not rubbing on the water.

Q. What difference is there between the draft of your vessel at the keel and the draft 6 feet higher up on the dead rise?—A. I never saw her ship-carpenter's scale and dimensions; but there is probably a dead rise of an inch to the foot on her, which is more than most of them have.

Q. Then, 6 feet up from her keel she draws 6 inches less water than at her keel?—A. I did not say so. I said that her dead rise is probably an inch to the foot.

Q. Then, at 6 feet up from the keel she would draw 6 inches less?—A. Well, go on.

Q. Is that so?—A. Perhaps it may be so.

Q. And if she draws 11 feet at the keel, then, at 11 feet up from the keel she would draw 11 inches less?—A. Yes; according to that theory.

Q. If that is so what would prevent the City of Duluth, loaded as I have stated, passing another vessel of the same capacity, loaded in the same way, with the width of 80 feet at the bottom of the canal?—A. I will explain that [making a diagram]: Suppose those lines [indicating] represent the sides of the canal, and this semi-circle represents the bottom; the sides are shoal, so that a vessel of that dimension, loaded to any depth, has to keep the center of the canal.

Mr. PAYSON. Then, if two boats came together one or the other of them would go against the bank on either side. That is the idea you mean to convey?

The WITNESS. Yes.

Mr. SHAW. Both would have to go to the bank?

The WITNESS. Yes.

Mr. DAVIS. Suppose vessels are both loaded down as I have described. Here [spreading out diagram marked Exhibit F] is a cross-section of the canal. From here to here [indicating] the canal is 100 feet wide; and here [indicating] is the bottom of the canal, 80 feet wide.

The WITNESS. Yes; on paper.

Mr. DAVIS. If two vessels like the City of Duluth were passing each other here [indicating], drawing the depth of water you have mentioned, how much of their bottom would require to have 12 feet of water? How much depth of each vessel would require that depth of water?

The WITNESS. If they were both alike they would require a space of 41 or 42 feet in width.

Mr. PAYSON. For each boat?

The WITNESS. No; that is putting them so that they would just work past each other.

By Mr. DAVIS:

Q. The bottoms of the two vessels would occupy about 40 feet?—A. That would squeeze them up snug together. That would not allow anything to go by.

Q. How much space ought they have to go by?—A. They should have 2 feet.

Q. Then that would occupy 42 feet?—A. Yes.

Q. Then what you want the committee to understand is, that two vessels drawing 12 feet of water cannot go through this canal without hitting each other, when the bottom is 80 feet wide?—A. I claim that the bottom is not 80 feet wide. Last summer a couple of us met there inside of the piers a little way. We were about 32 feet beam, and partially loaded, and we were comparatively light, and could get on.

Q. You met inside the piers?—A. Five hundred or 600 feet in the canal—800 or 1,000 feet.

Mr. PAYSON. Inside of the shore line?

The WITNESS. Yes, sir.

By Mr. DAVIS:

Q. When was that?—A. A year ago last summer?

Q. What was the name of the vessel?—A. The Badger State.

Q. And you were trying to pass?—A. We met there.

Q. And you passed?—A. She stopped upon the bank, and we got by her.

Q. And that is the authority you have for saying that the bottom of the canal is not 80 feet wide?—A. That is not all.

Q. What other authority have you?—A. Because we often get on there in passing through without meeting any other boat.

Q. How does that go to prove that the canal is not 80 feet wide at the bottom? It simply goes to prove that there isn't water enough for you to go through?—A. It goes to prove that there are difficulties there which it is not very pleasant to encounter.

Q. How often have you ever got on in the canal?—A. We have got on these banks several times.

Q. How many times?—A. I do not recollect the number.

Q. You navigated up there six years on the Missouri?—A. I did not say six years, I said four seasons.

Q. And how many years on the Duluth?—A. Three.

Q. That makes seven seasons. During all that time how often have you encountered difficulty in the canal?—A. I do not recollect how many times we have got on the bank.

Q. More than once or twice?—A. Yes.

Q. Three or four times?—A. More than that.

Q. Five or six times?—A. Probably.

Q. How many times have you done it?—A. If I had put a tally down every time I might answer the question, but I cannot answer it.

Q. Come as near to it as you can. During the entire seven years how many times did you touch in the canal?—A. We are talking about fetching up.

Q. You said that you have hit on these banks time and again. How often?—A. I presume I have twenty times.

Q. In the seven years?—A. Yes; and maybe more than that.

Q. How many times would you swear to?—A. Say twenty times.

Q. Did you ever get on anywhere in this canal?—A. Yes; I have been on at different times.

Q. What do you mean by getting on; do you mean to strike?—A. We brought up on those shoals along the sides of the canal, and we had to drive her off, and sometimes to get a line out.

Q. Was there ever a time that you tried to get through this canal

and that you could not get through?—A. No; I think we always have been able to trim our vessel so that we could get out of there.

Q. What do you mean by trimming her?—A. We probably trimmed her straight down, so as to lighten the load aft. That is the trim you would like to hear from, I suppose. What is generally understood by trimming when going into shoal places is to get the stern of the boat up as much as possible with steam vessels, especially vessels of that construction.

Q. You never trim a vessel so as to keep her on even keel and make her stear better, do you?—A. We generally have not trimmed in that way.

Q. Is there not that sort of trim, also?—A. Certainly.

Q. Then there are two kinds of trim, one from side to side, and one from stem to stern?—A. Yes; and there is trimming grain, too.

Q. Is it an object to keep away from the sides of this canal, or of any other canal, with a vessel?—A. It is in this canal.

Q. Is it not in any other canal?—A. You mean the Sault Ste. Marie Canal?

Q. Did you ever go through any canal except the Sault Ste. Marie Canal and the Portage Lake Canal as the commander of a vessel?—A. I have been through the Welland Canal, but not as commander.

Q. Did you ever navigate a vessel through any canal except this canal and the Sault Ste. Marie?—A. Yes; through a canal that goes up into Portage Lake.

Q. Out of Portage Lake?—A. Yes.

Q. That canal consists of a dredge cut made there, does it not?—A. Yes.

Q. And you get aground every time that you go through there?—A. No, sir; I do not.

Q. The walls of the Sault Ste. Marie Canal are stone, are they not?—A. Yes; they are mostly all stone.

Q. State whether or not it is an object for a commander of a vessel going through a canal to keep away from the sides of a canal?—A. You cannot do so sometimes.

Q. Is it the object of a commander to keep his vessel away from the sides of the canal?—A. It is.

Q. Do you know what the toe of a canal is?—A. No; that is a new term to me.

Q. Look at this diagram (Exhibit F) and you will see the toe of this canal. It is that portion of the bottom of the canal where it ceases to be eighty feet wide and runs up to the side of the canal. Is it better for a vessel to strike a toe in the canal or to go up and strike the sheet-piling with its guards over the sheet-piling?—A. It is better to keep in mid-channel.

Q. But suppose you cannot do it? Is it better to tear the sides of the canal protected in this way, or to go up against the sheet-piling with the guards of the body over the sheet-piling?—A. It is better to go against that, of course.

Q. Then if the walls were vertical and the boat were to go up against the sheet-piling the guards of the vessel would go over the sheet-piling, would they not?—A. We have no guards.

Q. What is this rail that runs along the side of propellers?—A. The fender wale of the propeller.

Q. How wide is the wale?—A. Probably from 8 to 12 inches, according to the size of the vessel.

Q. The wale occupies the same relative position to propellers as the guards do to side-wheelers, does it?—A. Oh, no.

Q. The wale projects from the sides of the vessel?—A. It mostly projects as a protection to the hull of the vessel.

Q. Then the wale would go over the sheet-piling?—A. We have up and down fenders which keep the vessels from going on.

Q. But for this toe the vessel, if it hit the side of a canal would go up here on the sheet-piling [indicating]?—A. Yes, it would of course, I suppose.

Q. With this toe there, if your vessel gets to the side of the canal, it would strike the toe and thus be kept off the sheet-piling to a certain extent?—A. Yes.

Q. And thereby the sheet-piling is protected and the vessel is protected from running against the side of the bank?—A. Yes.

Q. Did you ever pass the dredge in the canal?—A. We passed the dredges one time when they lay close alongside of what you call the sheet-piling there. That was the only time.

Q. Did you ever pass the dredge in the canal?—A. Yes, when they lay right alongside.

Q. Once or twice, or frequently?—A. Frequently.

Q. Do you know how wide the dredge is?—A. I do not.

Q. How many vessels have you passed in the canal outside of Lily Pond in the seven years that you have been going through there?—A. I have not passed many.

Q. How many have you passed?—A. I passed the Manistee, the Hurd, the Fremont, and some of the small vessels. We have met one another there for the last three years a dozen times.

Q. A dozen times a year?—A. No, a dozen times altogether—probably or possibly.

Q. While you were in command of the Missouri did you pass vessels there frequently?—A. Once in a great while we would meet something in there.

Q. Whenever you had occasion to go through the canal did you stop at the upper end of the canal or at the lower end and whistle, and wait for vessels, or did you go into the canal without whistling and take the chance of meeting them?—A. If I knew of any vessel coming along I always made it a rule to blow a whistle before entering the canal.

Q. And if you did not get a response you went ahead?—A. Yes.

Q. And if you met a vessel you passed her?—A. If I had evidence of any vessel coming I had to wait.

Q. You knew that that was the law of the canal, did you?—A. I knew that it was, if we had any evidence of any vessel coming.

Q. You were to wait and pass them there or at Lily Pond?—A. Yes.

Q. Do you know how wide the canal is from the entrance until you get to Lily Pond?—A. I should suppose something a little over 80 feet.

Q. At the surface?—A. Yes.

Q. And how wide is it through Lily Pond?—A. Probably from 150 to 175 feet.

Q. And from Lily Pond to Portage Lake how wide is the canal?—A. I suppose about the same. The narrowest part is something over 80 feet.

Q. How wide is the widest part?—A. It commences to expand at the lower end.

Q. How much of the canal is 80 feet wide?—A. It is between 80 and 90 feet.

Q. And how far between Lily Pond and Portage Lake does it exceed from 80 to 90 feet wide?—A. Probably two-thirds of the way.

Q. You mean its width between the sheet-piling?—A. I have reference to the stringers.

Q. The stringers are the limitation of the canal?—A. Yes.

Q. And for two-thirds of the way you say that you think the canal is from 80 to 90 feet wide?—A. Yes.

Q. For the rest of the way?—A. It expands to a pretty fair width by the light-house.

Q. Did you ever measure its width?—A. I am only speaking approximately.

Q. Did you ever take any soundings in the canal?—A. Nothing more than noticing the draught of vessels.

Q. Did you ever use a plumb line or stick to take soundings in the canal?—A. No, sir.

Q. Did you ever sound between the piers?—A. I do not recollect sounding between the piers. Usually every spring our agent goes up and gets the soundings.

Q. The City of Duluth and the Peerless and the Manistee and the Hurd all belong to the same line, do they not?—A. They did.

Q. During those years of which you have been testifying?—A. I am speaking of 1881.

Q. What is the name of that line?—A. The Lake Michigan and Lake Superior Transportation Company.

Q. Leopold and Austria are part owners in that line, are they?—A. Yes.

Q. And you also are a part owner?—A. I own some interest in it.

Q. Did you own an interest in it when you commenced command of the City of Duluth?—A. Yes.

Q. Did you while you were commanding the Missouri?—A. Yes.

Q. You told the committee there was a good deal of the canal outside of Lily Pond where you thought there was no sheet-piling. Did you mean to be so understood?—A. I mean to be understood that there are many places where the sheet-piling does not amount to anything.

Q. Outside of Lily Pond?—A. Yes.

Q. Do you know what is called Lily Pond?—A. I think I do.

Q. Do you know how long we call it?—A. No.

Q. Do you know how long it is?—A. I do not know exactly its dimensions.

Mr. PAYSON. Commencing at the shore-line of Lake Superior and thence inward toward Lily Pond, is the sheet-piling continuous on either side?

The WITNESS. It is intended to be so.

Mr. PAYSON. Is it now?

The WITNESS. No; there are places where it is broken through.

By Mr. DAVIS:

Q. Where are those places—between Lake Superior and Lily Pond?—A. Yes; the first place.

Q. To what extent is it broken through there?—A. I cannot tell you.

Q. Do you mean that there is one board out or two boards out?—A. More than one and more than a dozen.

Q. What do you want the committee to understand—that it is all gone to rack and ruin?—A. I wish to be understood in this way, that it is not kept in that repair that it ought to be to prevent sand drifting down through in that deep cut.

Q. And that is between the Lake Superior shore and Lily Pond?—A. Yes.

Q. Is there anywhere else where the sheet-piling is gone?—A. Down in the swamp.

Q. Below Lily Pond?—A. Yes.

Q. What would you have sheet-piling there for? To keep out what?—A. To keep out mud.

Q. Is there mud there?—A. Would not vessels passing through wash the banks some?

Q. Through the swamp?—A. Yes.

Q. Is there much of the sheet-piling gone there?—A. It is gone there in spots.

Q. What time are you now testifying about—last year?—A. Yes.

Q. Was there any of it gone the year before that?—A. The decay has been, probably, gradually growing for some time.

Q. Was that the condition of affairs there before last year?—A. Some of it has been gone some little time.

Q. Where?—A. In spots along there.

By Mr. McCarter:

Q. (Opening diagram, Exhibit F.) Suppose the canal is constructed so that this cross-section in Exhibit F is a general representation of the cross-section of the canal. Now, suppose the canal is 13 feet deep in mid-channel, and these slopes at the side are graded up, so as to be 6 feet above the bottom, and the slope down from the height of the sheet-piling a distance of 10 feet. With a canal constructed in that way, how near can you pass to the sheet-piling with the City of Duluth?—A. That would depend upon how deep she was loaded.

Q. Suppose she has the ordinary load that you take through the canal?—A. With 13 feet of water in the canal we could not load safely to more than 12½ feet.

Q. Then call it 12½ feet. This bank or slope is 10 feet wide at the bottom and 6 feet high.

The Witness. Then there would be only 9 feet of water here [indicating].

Mr. McCarter. If there is 13 feet of water in the canal and only 7 feet at the sheet-piling here [indicating]?

The Witness. And the distance from here [indicating] is how much?

Mr. McCarter. It is 10 feet at the bottom, so as to leave the channel 80 feet wide. With that knowledge of the bank there, how close could you go to that sheet-piling with your vessel?

The Witness. We would go within about 5 feet, would we not?

Mr. McCarter. I do not know.

The Witness. You have got to figure your dead rise and bilge and distance, and all those things.

Q. Then you could get within 5 feet of the bank?—A. Yes. This is an approximate answer.

Q. You think you could get within 5 feet?—A. Yes.

Q. Then with a canal 100 feet wide you would have 95 feet the other way?—A. Yes.

Q. Then the circumstances would be the same, would they not, with a vessel coming the other way, allowing 5 feet on the opposite side of her?—A. Yes.

Q. In that condition of things could not two vessels, the same size as the City of Duluth, pass each other there?—A. Yes, in that condition of things. That is all straight enough.

Q. How far is it between Lily Pond and Lake Superior?—A. I do

not know exactly the distance. I have generally understood that the extreme length of the canal is 2 miles.

Q. But from Lily Pond to Lake Superior how far is it?—A. I suppose one-half the distance or nearly that.

Q. What occasion would a vessel have to tie up in that distance or to make fast in that part of the canal?—A. Supposing we get up toward the piers there [indicating] and find that there is too much sea on to go out. What would we have to do? We could not back out again.

Q. Would it be necessary for you to make fast?—A. Certainly it would, unless we ran the vessel on to some of the shoals on the side.

By Mr. DAVIS:

Q. You would know if there was a gale of wind before you got there?—A. We cannot always tell. Sometimes, with these high hills at Portage, we do not perceive the wind.

Q. But by the time you got to Lily Pond you would know whether it was blowing a gale of wind on the lake?—A. No; because we do not see the light-house until we get past Lily Pond.

Q. Do you tell us that from your wheel-house you cannot see Lake Superior from Lily Pond?—A. Yes, I do.

Q. Could you not feel the wind if it was blowing outside?—A. Sometimes, in some directions.

Q. Suppose the wind was from the northeast, or from the northwest, could you not feel it?—A. Sometimes, in Lily Pond, you do not feel the northwest wind when it is blowing a gale.

Q. What protects Lily Pond?—A. The hills and woods.

By Mr. PAYSON:

Q. As nearly as you recollect, when was the first time that you experienced any difficulty in navigating that canal—either the canal itself or the space between the piers outside?—A. The filling up between the piers was in 1875, I think.

Q. From your experience as anavigator on that lake have you such a judgment as would justify you in giving an opinion as to where that sand came from which formed the shoal in there at the mouth of the piers?—A. I have talked that thing over quite a bit with various captains and other persons interested in that trade up there.

Q. What is your conclusion about it?—A. My own independent opinion is this: The canal is narrow where it comes to the shore-line, and then there is an expansion, and there is quite a width of piers out there that catch a good deal of sea. In a heavy gale of wind the waves come with a fearful momentum. Of course this contraction stops these tremendous waves and the backset, as we call it, or the undertow takes the sand right with it. The sea tumbles right over in there. I have observed there at different times in working along at that particular point that on each side of the canal there is a good deal of wash from gravel.

Q. On the shore of the lake?—A. Yes. This is where the sea breaks over—where the deep cut commences. It has left these pebbles and small stones there where the sand has been washed out from.

Q. Assuming this blue belt [showing Exhibit N, known as the Schermerhorn map] to be Lake Superior, and here the canal; where do you think the sand comes from?—A. The sea coming in and striking here [indicating], this great volume of water is suddenly brought up. It requires a great deal of resistance to stop it. It breaks over in here on each side [indicating], and will run in here [indicating], and then there will be a backset, as we call it, or a counter-current, which carries the sand out here [indicating] and keeps depositing it.

Q. How does the sand get there; is it over the piers?—A. I guess mostly through the piers.

Q. It is crib work along there?—A. These seas break all over in here [indicating].

Q. Have you ever heard the theory as to the shore sand drifting here [indicating] and forming a bar?—A. No; I do not understand that theory, because the worst seas come with the northwest wind. To the right here [indicating] is a reef that runs into the lake. It may be a mile or so, I guess. That breaks off these northeast seas and breaks off the shore current from that direction. Off here westerly [indicating] is another rocky point which runs out.

Q. What distance?—A. Say a mile. It is a rocky point, and there is a sort of cove in here [indicating]. That helps to break the west seas. Not only that but the shore is bold and rocky after you get from the canal westward.

By Mr. DAVIS:

Q. Do you know anything about the sand having formed a bar on the west side of the west pier clear out from the shore line to the end of the pier. Did you ever hear that the sand extends from the shore line clear out to the end of the western pier?—A. You have reference to the outside of the pier?

Q. Yes; to the outside.—A. I am not acquainted as to that.

Q. You do not know, then, that the sand has extended out on the west side, or the outside, of the west pier from the shore line clear to the end of the pier?—A. That I know nothing about.

Q. And your theory, as explained to the chairman, is that much of the sand which has formed bars out here [indicating] has come through the sheet-piling down near the light-house.—A. Yes.

Q. And that it has been carried out and deposited between the piers?—A. All the way between the piers.

Q. That is your theory?—A. That is my theory—that most of the deposit comes from these seas.

Q. Have you ever been a civil engineer?—A. No, sir.

Q. Your business has been that of a sailor all your life?—A. Yes; pretty much.

Q. You never built any canals?—A. No, sir.

By Mr. MONTGOMERY:

Q. Tell the committee how the tolls are assessed in this canal—on what basis?—A. On the net tonnage.

Q. You mean the tonnage of the vessel without regard to its load?—A. That is it.

Q. Tell the committee whether all vessels are built with what you term this dead rise?—A. Not all of them.

By Mr. REDINGTON:

Q. Suppose you were in Portage Lake bound up, and suppose a storm was prevailing on the lake and you desired to go out, would the prevalence of the storm outside on the lake prevent your going out, provided you had a proper channel and a canal by which to get out?—A. Not any ordinary storm.

Q. Then the motive which would keep you in the canal or prevent your going out would be the danger in passing through the mouth of the canal, and not the danger from the storm outside after you once got into the lake?—A. That is it.

Q. State whether under such circumstances you would fear the storm

on the lake when you got into the lake, or would fear the danger of the passage through the canal into the lake?—A. The passage into the lake.

Q. Mr. Davis asked you whether you would take all the freight offered you at Duluth when you were bound down. Would you take enough freight at Duluth bound down to load your vessel below 12 feet draught of water, if you expected to go through this canal?—A. No.

Q. To what depth would you load if you expected to go through the canal?—A. That depends upon whether the canal was dredged out so that we could get through, drawing 12 feet of water.

Q. As you know the canal, how deep would you load in any season since you have been navigating there?—A. We would have to take it in the summer time, or in the early part of the fall.

Q. Take it in the most favorable season of the canal—in the summer time or in the early part of the fall; how deep would you load?—A. The way they have been keeping the canal ordinarily, I would probably get through with 12 feet in safety, if the weather was good.

Q. At the best of the season?—A. Yes.

Q. Suppose you had such a load early in the spring?—A. I would not undertake to go through there, unless I heard definitely that there was water enough to enable me to get through.

Q. Suppose you were sailing in perfectly smooth water, how much water under your keel would you want in order to steer with safety?—A. At a moderate rate of speed running slow, we would need a foot of extra water.

Q. You have spoken about the waves breaking with great force over all of these piers in a storm, and Mr. Davis has asked you questions based upon the idea that these waves at times reached to a height of 6 or 8 feet. Suppose you had an outside breakwater constructed there such as I have already referred to, would there be any such waves breaking over the piers at any time?—A. No. I am speaking with reference to having it of sufficient dimensions to make an outer harbor. It would make it on all occasions comparatively smooth water.

Q. And the result would be that none of those seas would be breaking over the piers?—A. No. We see that demonstrated in other places where these breakwaters are built.

Q. In your answer to questions put to you by Mr. McCarter you have answered on the supposition that what was exhibited to you on the maps showed the real facts.—A. Yes.

By Mr. DAVIS:

Q. It is always easier and more agreeable, is it not, to navigate the open lake than to enter any kind of harbor?—A. That depends upon the harbor.

Q. I mean any ordinary river or harbor?—A. Take the case of the Saint Clair River, or of the Detroit River; they are not difficult to navigate.

Q. I mean that harbors in gales of wind, unless they are remarkably good harbors, are avoided and dreaded by sea captains?—A. Yes; of course, unless they are good harbors.

Q. Ontonagon River, for instance?—A. That place we keep away from in bad weather.

Q. And the sort of breakwater you think that would protect the canal is such as they have at Buffalo or Chicago?—A. Buffalo is one example. That used to be a very dangerous place to enter, but since they have got a breakwater there there is no trouble whatever.

Q. That is an expensive work, is it not?—A. It will be when completed. It helped it very much when they got 500 feet of piers there.

Mr. REDINGTON. And the same is true in reference to the piers at Cleveland.

The WITNESS. Yes. When the plan is completed it will be all right.

The committee here took a recess.

After recess EDWARD MOONEY was sworn and examined as follows:

By Mr. MONTGOMERY:

Question. What vessel are you in command of?—Answer. The India.

Q. How long have you commanded the India?—A. This is my first season.

Q. How long have you been a navigator?—A. I have sailed on the lakes for twenty-six years.

Q. You commanded for a long time the steamboat Winslow?—A. Part of two years.

Q. What years?—A. Last year and a part of the season before.

Q. Do you know this canal in controversy since it was opened in the spring of 1874?—A. Yes.

Q. What were you doing at that time?—A. I was sailing the propeller Atlantic.

Q. In command of her?—A. Yes.

Q. When was the first occasion that you ever had to go through the canal?—A. In 1875, I think.

Q. In what boat?—A. The City of Fremont.

Q. Do you recollect how many times you went through the canal in the season of 1875?—A. I do not.

Q. When did you have the first trouble in going through the canal?—A. I got into trouble before I attempted to go through the canal, through there being no water there.

Q. That was before the canal was completed, was it?—A. No, it was in 1875.

Q. Tell us about that.—A. In 1875 I was in command of the propeller Pacific. After getting to Portage Lake and unloading at Hancock and Houghton, I had to go to Eagle Harbor; but there was not water enough to go out through the canal, and I had to go round Keweenaw Point.

Q. How much water was the Pacific drawing at that time?—A. I should judge 11 feet, or 11 feet 2 inches.

Q. Aft?—A. Yes; and about 9 feet forward.

Q. How was the weather?—A. It was nice weather inside. I do not know how it was outside.

Q. What time of the year was it?—A. About the 5th or 6th or 7th of May.

Q. Probably before the canal was dredged?—A. Yes.

Q. In 1877 what vessel were you sailing?—A. I was mate and pilot of the Japan, I think, in that year.

Q. Did you not in the season of 1877 commence sailing the Pacific?—A. No; I commenced to sail the Pacific in 1875; but in 1876 or 1877, I do not know which, I was going round Keweenaw Point when I could not get through the canal. I had to go round that way, and on coming back again I got into a difficulty.

Q. What happened?—A. I got ashore in a fog.

Q. Where did you get your vessel ashore?—A. Three miles above Portage entry.

Q. Was she a loss?—A. No, sir.

Q. Did she get stuck fast?—A. Yes, sir.

Q. What became of her?—A. I got her off in three or four days.

Mr. DAVIS. This was out at Keweenaw Bay?

The WITNESS. Yes, sir.

By Mr. MONTGOMERY:

Q. You left that vessel?—A. Yes; when I went to Buffalo they discharged me.

Q. Where did you go then?—A. Then I became mate of the Fremont.

Q. What line did she belong to?—A. Ward's line.

Q. Prior to 1877 had you been trading any above Portage?—A. No, sir.

Q. What was the draught of water of the City of Fremont?—A. About 11 feet 6 inches, I should judge—may be a little more or a little less.

Q. What was the tonnage of the Fremont?—A. I think about 750 tons.

Q. She was trading from Buffalo to Duluth?—A. Yes.

Q. Do you recollect what time of the year you went on the Fremont?—A. I think in the latter part of June, or on the first of July, 1876, or 1877, I am not certain which.

Q. On your first trip in the Fremont did you go through the canal?—A. I am not certain; but I think we did.

Q. Did you have any trouble with the Fremont in going through the canal?—A. No, sir.

Q. In 1877 you went on the Japan?—A. Yes.

Q. In what capacity?—A. As mate and pilot.

Q. How long did you remain on the Japan?—A. I remained on her until October, I think.

Q. Do you recollect the first trip that you made up?—A. Yes.

Q. Do you recollect whether you stopped at Hancock?—A. Yes.

Q. Do you recollect whether you went through the canal or not?—A. We did not.

Q. Why?—A. There was not water enough in it.

Q. How much was she drawing at that time?—A. Eleven feet 6 or 8 inches.

Q. Did you go through the canal on your trip back?—A. I cannot say.

Q. In passing through this canal, what has been your experience about the necessity of keeping in the center of the canal, after you entered between the cribs?—A. We had to keep in the center. If we did not, we would steer badly going through. Sometimes we would hit the bank.

Q. How wide is the channel from the shore line to the cribs, between the piers, where you find water enough to sail?—A. Seventy or 80 feet, I should judge; but it is mere guess-work.

Q. Can you give any sort of an estimate about how many times, all told, you have been through that canal as a navigator, since its construction?—A. I cannot say.

Q. Several hundred times, have you?—A. Oh, no; I cannot say how many times. Some years I go through eight or ten times.

Q. Have you been through every week?—A. No, sir.

Q. What is the most water that your boat has ever drawn when you went through the canal?—A. I think 11 feet 8 or 10 inches.

Q. Have you ever, in your experience as a navigator, tried to attempt to pass through this canal drawing 12 feet of water?—A. I might if I was sure there was going to be calm weather; but I never take such chances. I like to load down to not more than 11 feet 5 or 10 inches.

Q. Have you frequently in passing between the piers touched or scraped bottom?—A. I hardly remember going in there when drawing 11 feet 10 inches that I would not strike.

Q. When you speak of striking what do you mean? Do you mean to strike once, and then that is all over?—A. Oh, no. We would strike probably for two or three hundred feet there.

Q. Where?—A. From the light-house up.

Q. What do you mean by the vessel striking? Do you mean that she makes jumping motions?—A. Yes, sir; we would have her trimmed in such a shape so that when she hit she would jump up. We would load her so as not to be drawing over 11 feet 3 or 4 inches forward.

Q. And how much aft?—A. About 11 feet 8 or 10 inches.

Q. Where is the light-house in reference to the shore?—A. It is on the beach, on the top of the hill.

Q. In your experience as navigator, what has been your practice always, when you knew that you were going through this canal, about trimming so as to be able to get through?—A. We would always load so as to get through there without any difficulty. If we were drawing too much water when we got to Portage, after unloading there, we would trim the boat before we would leave, so we would be able to get through the canal.

Q. Did you ever have any trouble there with the Winslow?—A. We have struck there almost every time that we passed through.

Q. That is not an unusual experience?—A. No; it is a very common experience.

Q. What was the tonnage of the Winslow?—A. She carried about 850 tons. Her registered tonnage was 932, I think.

Q. Do you recollect her deepest draught?—A. About 13 feet foward, and about 13 feet 6 inches aft.

Q. Have you ever attempted to go through the canal with her when she was drawing 12 feet of water?—A. I have not.

Q. Did you ever talk with Mr. Pryor as to why the canal did not have better accommodations and better advantages there?—A. No; I never talked with Mr. Pryor, except as to what time he was going to get the canal dredged out, or something of that kind.

Q. Did Mr. Pryor tell you the reason why the canal was not in better shape?—A. No, sir.

By Mr. DAVIS:

Q. Let me recapitulate your statement: Did I understand you as saying that you went through this canal for the first time in 1874 on the Atlantic?—A. No, sir; I went through for the first time in 1875 on the Pacific.

Q. When did you first go through the canal on any vessel?—A. In 1873.

Q. When did you first go through as commander of the Pacific?—A. I went through on the Arizona.

Q. As a commander?—A. Yes, sir.

Q. When was that?—A. I think it was five years ago. In 1879, I think.

Q. That is the first time you went through as a commander?—A. Yes; I think so.

Q. You testified that you went through on the Pacific?—A. No; I did not.

Q. You had trouble on the Pacific?—A. Yes, sir; I did not go through on her. The reason that I did not go through on her was that I had trouble.

Q. Were you the commander of the Pacific in 1875 or 1876?—A. Both in 1875 and 1876.

Q. What year did you have trouble on the Pacific?—A. I think it was in 1876 or 1877; I do not know which.

Q. The trouble was this: You were at Houghton or Hancock with the Pacific bound up, north or west—bound up to Eagle Harbor?—A. Yes.

Q. And you did not go through the canal?—A. No, sir.

Q. Why?—A. Because there was not water enough in the canal.

Q. How did you know there was not water enough in it?—A. Because Mr. Pryor told me.

Q. How much did he say there was in it?—A. 9 feet 6 inches.

Q. He had not dredged the canal at that time?—A. No.

Q. It was before the dredging of the canal?—A. Yes, sir.

Q. And so you went round Keweenaw Point?—A. Yes.

Q. And you got ashore?—A. I got to Eagle Harbor all right; unloaded there; loaded with copper and started; and coming back around Keweenaw Point I got ashore.

Q. And you had trouble with the proprietors of the line, and they discharged you?—A. Yes, sir.

Q. And you went on another line?—A. Yes, sir.

Q. The next boat that you went on was what?—A. The City of Fremont, as mate.

Q. Where did she run?—A. From the city of Cleveland.

Q. You had no trouble with the City of Fremont?—A. No, sir.

Q. Then in 1877 you were mate and pilot on the Japan?—A. Yes.

Q. And in the spring of 1878 you had trouble with the Japan in getting through the canal?—A. Yes.

Q. You struck between the piers?—A. I did not go through at all. I went through Keweenaw Point.

Q. Why did you not go through?—A. Because we were drawing too much water.

Q. And the dredging had not been done?—A. No, sir.

Q. It was in the spring?—A. Yes, sir.

Q. You say that passing between the piers in, drawing 11 feet 10 inches, you frequently struck between the piers?—A. Yes.

Q. In the channel?—A. Yes.

Q. In the spring of the year?—A. When the dredging was finished.

Q. What year did you go through there on the Japan, or any other vessel, after the dredging, when you have struck?—A. Almost every year since 1878.

Q. But you still kept going through?—A. Certainly.

Q. How much water did the Japan draw in those days when she struck?—A. I believe from 11 feet 6 inches to 11 feet 10 inches.

Q. Do you know how much she was drawing?—A. She may have been drawing either one of those depths. She does not draw the same drought each trip.

Q. Nor is the water in the lake every season the same, is it?—A. No.

Q. It is some years higher and some years lower?—A. Yes.

Q. You cannot tell more definitely how much water she was drawing?—A. She drew maybe 11 feet 4 inches or 11 feet 6 inches.

Q. She is an iron boat?—A. Yes.

Q. One of the largest boats?—A. Yes.

Q. Did you go through the canal in 1882?—A. I was on the Arizona and the Winslow in 1882.

Q. Did you go through the canal?—A. Yes; with the Winslow coming down, and with the Arizona both ways. These vessels trading to Duluth have frequently nc business at Portage Lake on their way back.

Q. When you had not, you did not go through the canal?—A. No.

Q. You went directly to Marquette?—A. Yes.

Q. That is the cheapest and best way?—A. It is the easiest way to go.

Q. And you saved time in that way?—A. Yes.

Q. That was the customary and ordinary way?—A. Yes; it was with me.

Q. I suppose you cannot recollect how often you went through with the Japan in any one year?—A. No, sir.

Q. You paid toll when you went through this canal?—A. I did not; the clerk did.

Q. Your clerk always paid toll when you went through?—A. Yes; I paid the toll myself once or twice while I was on the Arizona.

Q. Mr. Pryor had a record of the times that you went through, had he?—A. Always.

By Mr. MONTGOMERY:

Q. From your experience as a navigator, since you knew anything of this canal, has it ever answered, during any season, the purposes of a harbor of refuge, or has it answered the navigation of the lakes there?

(Question objected to by Mr. McCarter, and objection sustained.)

Q. Is there in any sense a harbor of refuge there?—A. Yes.

Q. Is it a good one?—A. Yes, sir. Excuse me; I thought you meant to ask whether that was a good place for a harbor of refuge.

Q. No. What I ask you is this: Is there, or has there been since the canal was built, a practical, real harbor of refuge there?—A. No, sir; there has not—nowhere on that shore. I had understood you to ask whether it was practicable to have a harbor of refuge there or not.

By Mr. DAVIS:

Q. After you get into Portage Lake, is not that a good harbor of refuge?—A. Yes; when you get into Portage Lake.

SAMUEL SHANNON sworn and examined.

By Mr. MONTGOMERY:

Question. What vessel are you in command of?—Answer. I have been appointed to the Nyack for this year.

Q. What vessel have you been in command of for the last four years?—A. I sailed in her for the past four years.

Q. How long have you been a sailor?—A. 1858 was my first year sailing. I have been master of a boat fifteen years.

Q. How long have you been engaged in the Lake Superior trade?—A. I made four trips to Duluth in 1871, I think.

Q. Ever since that time you have been engaged in the Lake Superior trade?—A. No, sir.

Q. What years have you been engaged in that trade?—A. I resumed that trade in 1878, and then again in the fall of 1881.

Q. Then there was a skip from 1871 to 1878?—A. Yes, sir.

Q. Did you continue in the trade in 1879?—A. No, sir. From 1878 until the fall of 1881 I was engaged on another route.

Q. What vessel did you have in 1878?—A. The Arctic.

Q. Where were her trips?—A. From Buffalo to Hancock and Houghton.

Q. You did not have occasion to go above there?—A. We did not go to Duluth that year; but we did go to Eagle Harbor.

Q. How many times?—A. I think twice that year we went to Eagle Harbor. I am not positive. I know we went there once, at any rate.

Q. In making the trip from Houghton to Eagle Harbor, what is the most direct way?—A. We usually call it shortest by going through the ship-canal.

Q. How much shorter than going by Keweenaw Point?—A. We can make the run, by going through the canal, in three and one-half hours; but by going the other way it takes us eight hours, or probably a little more.

Q. You have to go up round the northwest point?—A. Yes, the most northerly point.

Q. Did you go that way when you went to Eagle Harbor?—A. I went through the canal.

Q. How much water was your vessel drawing?—A. I really cannot tell; about 11 feet.

Q. Do you mean 11 feet aft?—A. I am pretty sure that we took in freight at Quinnesee mine to tip her up so as to get through the canal.

Q. Where is Quinnesee mine?—A. At Hancock. We took 50 tons of mineral there to tip her up. I am positive that we were drawing 11 feet aft and about 7 feet forward.

Q. What time of the day did you go through the canal?—A. In the afternoon.

Q. What time in the year?—A. In September.

Q. Had you any trouble in getting through?—A. No, sir.

Q. When did you first have any trouble in getting through the canal?—A. I never really had any trouble in getting through the canal.

Q. What would you call trouble?—A. I should call getting aground and lying there and working off trouble.

Q. In passing through have you struck the bottom with your vessel?—A. We have dragged right along from one end to the other when loaded down to a certain depth.

Q. What depth?—A. Twelve feet, for instance. We dragged through there last fall.

Q. Have you ever seen times when you dare pass through that canal drawing 12 feet of water?—A. Yes; in smooth water.

Q. Would you expect to strike?—A. Yes; I would expect to strike, but the bottom is soft.

Q. You would sail through the mud?—A. Yes. I have a powerful boat, and we can drive her through there, usually. I have always told our engineer to have plenty of steam up, and to be ready when I give him the "strong bell" to jump her out and let her go.

Q. What proportion of the distance from the shore line to the end of the pier would you touch the bottom?—A. Most of the time half-way out to the other end. That is where we usually have jumped, although I have touched bottom all along that canal, and have told Mr. Pryor of it almost every time.

Q. What did Mr. Pryor say to you on the subject?—A. He allowed that I did not keep in the channel.

Q. Did you?—A. I could not get out of it.

Q. Why?—A. Because there is not room enough in the canal to get anywhere else, according to the statement in the maps.

Q. Did Mr. Pryor ever tell you why the canal was not in better shape?—A. No, sir; not that I know of.

Q. Did he say anything about the expense of keeping it in good shape?—A. I did not recollect his ever mentioning that.

Q. When was your last trip through the canal?—A. In the latter part of last October.

Q. On the Nyack?—A. Yes.

Q. Do you remember lying at Bayfield?—A. Yes; on my last trip east. That was in November; about the 12th of November.

Q. How long did you lie at Bayfield?—A. About twenty-four hours.

Q. Why did you lie there so long?—A. Waiting for smooth water.

Q. And after lying there twenty-four hours you started out?—A. Yes.

Q. About how much water were you drawing forward, and how much aft?—A. About 9 feet forward and about 11 feet 11 inches aft.

Q. Did you enter the canal?—A. No, sir.

Q. Did you get down off the mouth of the canal?—A. Yes.

Q. What kind of a sea was there?—A. The wind shifted after I had left the islands to northwest again, I think. I ran down within sight of the piers and saw the sea breaking in, and I thought it more prudent to go round Keweenaw Point.

Q. Did you go round the point?—A. Yes.

Q. Did you run the Nyack ashore?—A. Yes. We got on Traverse Island reef in a snow-storm.

Q. Did you get stuck fast?—A. The wind kept us there. We drifted on, in fact. We did not run on.

Q. How long were you on the reef?—A. About forty hours.

Q. Did you have to unload your cargo?—A. We threw cargo overboard, and we wet about 1,800 barrels of flour, and about 500 or 600 tons of flour, before we got off.

Q. When you reached Bayfield, if you had known that there was plenty of water on the Portage Lake Canal, would there have been any occasion for you to remain at Bayfield twenty-four hours?—A. No; not with my boat.

Q. If there had been plenty of water for navigable purposes when you reached the mouth of the canal could you have entered the harbor?—A. I could have entered the harbor.

Q. In any reasonable sense of the word, since you have known anything about this canal, has it been a harbor or refuge?

(Objected to by Mr. McCarter, and objection overruled.)

A. I should judge not, for the class of boats that are running there. Light-draught boats might get in.

Q. Do you know, as a navigator, that light-draught boats not drawing more than 8½ feet of water can enter there at all times, and at all seasons, without apprehension?—A. I should not consider it good judgment to try. They might.

Q. About how much damage was done to your boat by your getting ashore on that occasion?—A. I think the damage amounted to between $10,000 and $15,000.

Q. Did you ever encounter a boat in the canal outside of Lily Pond? Have you had occasion to meet and pass boats?—A. I believe I have once met and passed the Manistee.

Q. Did you have trouble in passing?—A. No, sir; we did not have trouble.

Q. Were you loaded?—A. We were loaded to go through the canal. We were not loaded as we are usually loaded to run below; we trimmed the boat.

Q. Where did you meet the Manistee?—A. I think between Lily Pond and the Lake Superior side.

Q. With your vessel loaded to a capacity of 12 feet, or 11feet 6 inches, meeting another vessel just like her, loaded in the same way, can you pass without difficulty?—A. I think we would have trouble in getting past.

Q. Do you know anything about the towing of a vessel?—A. That was the propeller India in 1882. Mr. Pryor remembers that. We were talking about it at the time. I came through with my boat, and I inquired about the depth of water in the ship-canal. I believe I asked Mr. Pryor, and he told me that the India could not get through, and advised me not to try. That was in the spring of 1882. There were three trips that I went around the point that fall.

Q. Do you mean round trips?—A. We only stop on the way up, unless we are loaded for that purpose.

Q. So that it was really three round trips that you did not go through the canal?—A. Yes, sir.

Q. What time of the year was that?—A. It must have been in June. It takes us two weeks to make a trip, and I think that we started on our first trip from Buffalo in 1882, on the 9th of May.

Q. And that was about six weeks afterwards?—A. About five weeks.

By Mr. DAVIS:

Q. That Nyack is a large propeller, is she not?—A. Yes; we consider her about the largest there; that is, the largest passenger boat.

Q. Has she anything peculiar about her draught? Does she draw more than most of the vessels of her class?—A. She would if we would load her.

Q. Is she not rather of less breadth of beam in proportion than other vessels?—A. No; she has more beam.

Q. She is deeper in the beam than other vessels?—A. Not unless we load her. She is a long-legged boat. She draws more water without any freight or fuel in her than any of the other boats. She has got a cleaner run.

Q. What is her draught without any load in her?—A. About 11 feet 6 inches without anything in her aft, or anything that is freight. As she is lying now in winter quarters her draught is about 11 feet 6 inches aft and 5 feet 3 inches forward.

Q. Take the Japan and China and iron boats; would she draw more water than they, without any freight?—A. Less.

Q. Considerably less?—A. Captain Mooney can tell you better than I can. I never have been on one of those boats.

Q. The Nyack is longer than any of the other vessels?—A. Yes; she is 255 feet.

Q. Does that make it more difficult to handle her in narrow places?—A. I do not know but she steers as well as any of them in any bend.

Q. How about her going through the canal? Does not her length affect the suction more or less?—A. I do not think it does.

Q. Do you think that she is as easy to handle as one of the iron boats?—A. Yes, I do. They say that they go at a greater rate of speed than we do. We have to check down very slow to get through the canal,

where she does not steer well, on account of having a lean run. She goes out sharp in the after end.

Q. You say that you dragged through there between the piers?—A. Yes, sir.

Q. In 1882 and 1883?—A. At different times I have loaded down to 11 feet 8 inches and 11 feet 10 inches; we have dragged frequently. The last trip that I went through last fall we dragged quite a distance.

Q. Between the piers?—A. Yes, sir.

Q. Did you ever drag in the canal?—A. Yes; in the canal, and between the piers.

Q. Whereabouts in the canal?—A. Above Lily Pond and below Lily Pond.

Q. For any distance?—A. At one time in particular we had to go very slow in order to steer there; but just as soon as I would check speed down she would commence to stop, and we had to keep her wide open right through. That was the last trip I went through there last fall. But I had struck very frequently before, and I told Mr. Pryor.

Q. What did Mr. Pryor say?—A. He said that we were not in the channel.

Q. Then you and Mr. Pryor had a dispute about it?—A. Yes.

Q. And Mr. Pryor told you that other boats went through without striking?—A. Yes, sir.

Q. And Pryor said that you did not know how to steer your boat?—A. I do not believe he said that. He told me that I was not in the channel.

Q. Were you in the channel?—A. We were in the middle of the channel. We could not get anywhere else.

Q. You and Mr. Pryor had some hot discussion about it?—A. We had, several times; but in a friendly way.

Q. You do not like to strike anywhere with the Nyack?—A. Not where it would be likely to hurt her.

Q. Whenever you do strike you make a row with Pryor?—A. No. If I did I should make a row with him every trip.

Q. Do you strike every trip?—A. Yes; I have hit there almost every trip.

Q. What years?—A. 1882 and 1883.

Q. In the spring of the year?—A. For the first three trips in the spring of the year I did not go through.

Q. Were you advised by Mr. Pryor that you could not get through?—A. Mr. Pryor advised me so once. The third trip he told me they had made one cut with a dredge, but it was too narrow.

Q. And so you did not get through?—A. No; I went around.

Q. Your trouble has been in getting to the canal before the dredging took place?—A. I never tried to get through before the dredging.

Q. When you came to Bayfield and did not get through the canal do you know how much water you were drawing?—A. I came up drawing very nearly as much water as I was drawing coming down.

Q. There was a good deal of wind, was there?—A. There was quite a good breeze.

Q. You said that the water was breaking over the piers?—A. Yes; and I thought it more prudent to go around the point.

Q. And so you did not try the canal?—A. No, sir.

Q. And you got aground in a snow storm?—A. Yes; in a gale of wind.

Q. Is not November very late to be up there?—A. It is rather late sometimes.

Q. There is very rough weather on the lakes then?—A. Sometimes.

Q. There is a large sea breaking on the canal in a gale of wind, is there?—A. I should judge there would be. I never lay there in a gale of wind.

Q. As to this canal being a good harbor of refuge, is not Lily Pond a good refuge when you get in?—A. Yes; it is a grand place when you get in, but many boats cannot lie there.

Q. Portage Lake is a good place also, is it not?—A. Yes.

Q. How many boats can lie in Lily Pond?—A. I think two boats can lie there and let another pass.

Q. And I suppose it would take all the commerce of the country to fill up Portage Lake?—A. Very nearly, I think.

By Mr. MONTGOMERY:

Q. About this breakwater business. What effect would a properly constructed breakwater of sufficient length and at a sufficient distance from the mouth of the canal have? Would it make this canal a harbor of refuge?—A. I should think it would.

Q. Did you ever see the Sand Beach Harbor?—A. Yes.

Q. Is it regarded as important to have these harbors of refuge occasionally along the coast?—A. Yes, sir.

Q. Describe to the committee about how your vessel would behave as to scraping the bottom—what motion she would make.—A. It would depend a good deal upon how shoal the water was. She never scraped hard enough to hurt her there.

Q. What kind of motion does she have when she strikes bottom?—A. We are usually drawing more water at one end than at the other. Our fuel, boilers, and machinery are all at one end, and then if we were to load her up in the forward end with nothing amidships, it would not be using good judgment. So that we cannot get her on an even keel unless we have full freight. We are usually drawing 2 or 3 feet more aft than we are forward. I have tipped her up all that we could by loading her forward and lightening her aft. Her bow would naturally fall forward, and when she strikes she has a jumping motion. I have frequently called the attention of passengers to watch her jump as we got out of the piers.

Q. And you would have your engineer give her all the steam he could?—A. Yes. I always sent him word to that effect at the upper end of the canal.

By Mr. DAVIS:

Q. You say that you never hit to hurt her any?—A. Not there.

Q. With a vessel drawing as much water as the Nyack coming in between the piers in a gale of wind, how much water should she have under her?—A. I have run into Mussel Lake Harbor where they claim (and I guess it is so) there is from 16 to 17 feet of water. I have run in there drawing 15 feet of water and have not struck, and then again I have run in drawing not above 13 feet of water and have struck.

Q. What was it that caused the difference?—A. I do not know what the cause was. I have done that and the sea was about the same.

Q. But a vessel drawing 11 or 12 or 12½ feet of water, how much water should she have under her, in your judgment, going between the piers at Portage Lake in a gale of wind?—A. The more the better. I should like to have 6 or 7 feet, but I think that 5 or 6 feet would do.

Q. If it was a good, rousing gale of wind, you would not want to go

in unless you were sure you had 6 or 7 feet of water under you?—A. That would depend a good deal upon circumstances. If the boat was a good boat and all right——

Q. I am talking about the Nyack. With a good rousing gale of wind how much water would you want to go in there with the Nyack, if she was drawing 12 feet?—A. I would want from 16 to 17 feet to make a sure thing of it.

Q. What would you think of the judgment of a lake captain who said that 2 feet of water under his boat would be enough?—A. I would think he never ran into these harbors.

Q. In smooth water in this canal, what would you think of the judgment of a lake captain who testified that an inch of water under the keel of a boat would be enough?—A. That might be after she had her draught.

Q. Suppose she was drawing 12 feet, and that there was only 12 feet and 1 inch of water in the canal. Do you think that he would go through the canal?—A. Yes, I think so. I have gone over the lime-kilns with an inch of water more than I drew, and there are rocks there too. The passage in the lime-kilns is about as wide as your canal.

Q. After a boat starts and is in motion, does she not suck down the water?—A. She does, a little. By working her strong the keel has a tendency to draw the water from under her.

Q. And when you went through these piers you gave your engineer instructions to send the boat ahead?—A. Yes.

Q. That would set her deeper in the water, would it not?—A. Yes; but not 2 or 3 inches deeper.

Q. The bottom of the canal is sand and mud?—A. Yes.

Q. And your boat would skip along this sand and mud?—A. Yes; very frequently she goes through places drawing 6 inches more water than there is there. She goes through the mud.

Q. Where, for instance?—A. In Duluth Harbor, for instance. We very frequently jump her there in six inches of soft mud.

Q. Did I understand you to say that in 1882 and 1883 you omitted your first trips?—A. In the spring of 1882 I omitted my three first trips.

Q. You omitted three trips in 1882?—A. Yes; I think I did.

Q. Of course you did not pay toll unless you went through the canal?—A. I do not know. I never attended to that matter. The purser attended to all that. I think that if we did not pay toll that Pryor would be after us.

Q. It is not probable that you paid toll unless you went through the canal, is it?—A. We usually pay our debts.

Q. Your trips were all numbered, were they not—one, two, three, four, &c.?—A. Yes; they should be.

Q. Did you not go through the canal on your third trip in 1882?—A. I do not think we did. We may have done so, but I am pretty positive we went around Keweenaw Point two trips, and I think three.

Q. Mr. Pryor's books will show, will they not?—A. They ought to.

Q. If Pryor's books show that you went through the canal fourteen times in 1882 (omitting only the first two trips) that is probably the fact, is it not?—A. I do not think we went through the canal fourteen times in 1882.

Q. You paid fourteen tolls in that season. Were you on the Nyack in 1881?—A. Yes; and in 1880.

Q. How often did you go through the canal in 1881?—A. Once, I guess, and I went around the point once.

Q. You came out on that line in 1881, did you?—A. Yes.

Q. In 1882, according to Mr. Pryor's books, you omitteed the first and the second trips?—A. Yes, and I think the third trip; but I am not positive.

Q. In 1883 (last year) you did not omit any trips, did you?—A. I went through every trip, I believe, in 1883.

Q. Then, in your experience up there, you have omitted how many trips through this canal on account of the water when you would otherwise have gone through the canal?—A. It is not necessary for us to go through the canal on our way down. We load too deep to go through it.

Q. How many trips have you omitted in the canal on account of water?—A. I have not omitted any but these two or three in 1882, and this trip last fall, when I dared not venture in.

Q. Therefore, if you are right, you omitted four trips, and if Mr. Pryor is right you omitted three trips only, going through the canal on account of water?—A. Yes.

By Mr. REDINGTON:

Q. Something has been said about the value which you put upon this boat and your pride in her. How much did it cost to build her?—A. I believe that (all complete) she cost $142,000.

Mr. McCARTER. You did not build her?

The WITNESS. No; I wish I did.

Mr. McCARTER. You only know what she cost from others?

The WITNESS. I know it from her owners.

LYMAN HUNT recalled.

By Mr. MONTGOMERY:

Question. Did you ever talk with Mr. Pryor about the condition of this canal and the reasons for its condition?—Answer. I have had a good many talks with Mr. Pryor about it.

Q. What did he tell you about its condition and the reason why it was in such a condition?—A. I found a good deal of fault with him about our annoyances from the lack of water at the upper end. On one occasion he told me that he had spent a good deal of money there, and that the canal company found a good deal of fault with him for spending so much money.

Q. In any of the conversations that you had with Mr. Pryor, has he ever claimed that the canal was in proper shape or was properly navigable?—A. He usually is very kind about telling us what soundings he gets in the spring, and of course we have to govern ourselves accordingly.

By Mr. McCARTER:

Q. When did you have this conversation with Mr. Pryor?—A. Within the last three years.

Q. Where was it?—A. At Hancock or Houghton. I frequently see him in both cities.

Q. I am asking about this one conversation.—A. I am speaking of that same conversation.

Q. It was only one conversation you had with him on that subject, was it?—A. That is all.

Q. Where was it?—A. I say that it was either in Hancock or Houghton.

Q. Which was it?—A. I tell you I do not know, for I often see him at both places.

Q. It was either in one place or the other?—A. It was either in Hancock or Houghton, but I have no recollection of which place it was, because I very often meet him at both places.

Q. What time of the year was it?—A. That I cannot tell you, but it was probably in the spring of the year.

Q. You have had frequent altercations with Mr. Pryor about getting through this canal?—A. Not in an angry way.

Q. I did not ask you whether it was in an angry way or not, but I asked you whether you had frequent altercations with Mr. Pryor about getting through this canal.—A. We have had frequent conversations about it.

Q. And disputes?—A. I found fault with the condition of the canal.

Q. You have found a good deal of fault with it, have you not?—A. Yes.

Q. Did you not have a dispute with Mr. Pryor on one occasion as to whether you should pay toll?—A. I did; and I referred the matter to our managers at the head office.

Q. When was that?—A. Two years ago this season.

Q. What was the occasion of it?—A. The occasion of it was my going up there and trimming my vessel to as light a draught as possible, and then being compelled to wait there when there was a little breeze of wind and a sea.

Q. And you laid the blame to Mr. Pryor and the canal?—A. I laid it to the improper condition of the canal.

Q. And you refused to pay toll, did you not?—A. Yes.

Q. And you afterwards paid it?—A. Yes.

Q. And felt very sore about it?—A. Yes.

Q. Have you not been a constant grumbler and growler at the condition of the canal every time you used it?—A. No, sir.

Q. Then there have been times when you made no complaint?—A. I made no complaint except I had an occasion to do so.

Mr. Montgomery announced that that was all the testimony that he would offer on the subject of the condition of the canal.

RAPHAEL PUMPELLY recalled.

By Mr. DAVIS:

Question. Did you have any connection with the old Portage Lake Canal Company?—Answer. I did.

Q. When did your connection with it commence, and what was its nature?—A. I was asked in the spring of 1867 (before the location of the second grant began) to take charge of the selection of the lands for the company.

Q. Under the first or under the second grant?—A. I think the lands under the first grant were practically selected at that time, and our work began with the lands under the second grant.

Q. What did your work consist of, in a general way?—A. The selecting of the men who were to do the work in the woods, the making out of the lists, the seeing whether the lands were vacant in the land office, and all the local land office work, and then sending the lists to the company in New York.

Q. You organized parties to examine lands for pine and mineral, did you not?—A. I did.

Q. And you had them out over the territory?—A. Yes.

Q. And when they came in they made reports to you?—A. Yes.

Q. And after that you determined what lands you thought it advisable to secure?—A. I did.

Q. Then you would go to the land office and do what?—A. I went to the land office and saw what lands were vacant. I made sure that the lands on my list were open for us to take; and when I was satisfied of that, Mr. Edwards, who was then register of the land office at Marquette, put a mark upon the lands, which was for his own and my convenience. It consisted of a mark in pencil—generally a P. Sometimes a P made in one shape meant one list and a different P another list. And then we used a different symbol to mark different lands—of our own lands. That, however, was not binding. It was simply (for us) a mere convenience in reference to future lists.

Q. This was done by Mr. Edwards, during his term of office?—A Yes; he started the marking with these indications. Then the lists were sent to the home office at New York, and application was made for them, I think, at Washington. At any rate, the lists went through some further forms.

Q. At that time the lands in the Upper Peninsula west of ranges 15 and 16 were withdrawn from market, were they not?

(Objected to and objection sustained.)

Q. How was that land treated at the Marquette office as to its being withdrawn from market or not?—A. All the odd sections, I think, west of range 15, or west of a meridian in that neighborhood and north of town. 40, I think, were withdrawn from market and treated as closed to all entries, excepting those of the canal company, at that time—all outside of the limits of the Marquette and Ontonagon Railroad Company.

Q. You mean the odd sections?—A. Yes; the odd selections.

Q. What would be your object in marking up certain sections in the plat books with P or C?—A. If I remember right—it is now a long time ago—it was for the convenience of Mr. Edwards and myself. But ordinarily, entries that had been made before that time, before the withdrawal of those lands—private cash entries—were marked with the number of the register's and receiver's certificate. The lands within railroad grants—the odd sections—were marked with the initials of the railroad; for instance, M. O. for Marquette and Ontonagon. This was to prevent any confusion by ourselves afterwards when looking to see whether the lands were accessible or not, and for me to be able, when I came in again with another list, to know whether or not I had applied for it before.

Q. Then your lists would come in and you would select certain lands which you had not before entered; they would be designated upon the books with a P or a C?—A. Yes.

Q. And when other lists came in you would do the same thing?—A. Yes.

Q. And then, out of such lands as were so designated you would finally make selections for the canal company and make applications to Washington for the land?—A. Yes, that is in the case of the odd sections, because the odd sections were withdrawn from market.

Q. That was the custom?—A. Yes.

Q. And when you did not take the lands that you had marked the marks P or C would be rubbed out?—A. The intention was that all these marks should be rubbed out before the lands were restored to market.

Q. When Mr. Campbell came into the office was there any change in the custom?—A. None that I saw; none that I know of.

Q. How far was that custom applied to even sections?—A. I cannot say positively; I can only say this, that the even sections were open to

all the world, and that, as nearly as I can recollect, if I put P's at all on any even sections they were marked with ink. That was where the list was not to be changed, because I should have been very careful not to put a mark upon sections that were open to anybody else.

Q. What did you do about the even sections?—A. I am not positive that I put marks upon any even sections. The only object of putting a mark on would be to show that that was land which we wanted to take, and if that land were open to all the world to take we only put the mark on when we made up the final list. We then stood in the same relation to these even sections of land that all the rest of the world did.

Q. Did you or did you not mark up even sections of land with a P or a C or any other mark in the same way as you did odd sections—that is ,indiscriminately, marking as many acres as you pleased?—A. No, I think not.

Q. Did you not confine yourself to marking such lands in the even sections as you finally selected?—A. Undoubtedly; that is my best recollection.

Q. And you marked no other even sections?—A. I do not recollect putting a P on any even sections excepting this: I have an indistinct recollection of having put the letter P on some even sections of land within the 6-mile limits of the Peninsula Railroad. If I recollect rightly the 6-mile limits of the lands of the Peninsula road (the even sections) had not been reoffered. That is my impression—that they were not open to the rest of the world, and that there were a few tracts (a few 40-acre lots) for which I filed a list. I think I sent a list to the home office and that these lands were designated with a P. This I remember distinctly, but whether I put a P or any other mark upon any other even sections I do not recollect; if I did, it would be because it was a final list and we expected to have it treated as any other application of any other person coming in to make a cash entry. Our list having been previously filed would take precedence.

Q. When you put this mark upon even sections was it a designation that you thereby did select these lands?—A. I do not recollect positively putting marks upon any other even sections than upon the lands within the Peninsula Railroad grant. If I did it was on their final selection and because we expected to have to keep these lands and to be controlled by this mark. In other words, it was the final selection of these lands.

Q. How much of the lands of the second canal grant did you select or designate at the land office, both of odd and even sections?—A. I have the impression that there were about 18,000 acres still to be selected when I left. I am not positive. There may have been more than that.

Q. And you selected all of the 200,000 acres excepting about 18,000?—A. I think so. There may have been more than that which I did not select. Whether the residuum was in the even sections or not I do not recollect. That was my impression about it.

Q. You did the business for the canal company at the land office at Marquette, did you?—A. Yes; I think wholly.

Q. Were there any improper, illegal, immoral, or corrupt practices used by you, or, so far as you know, by any other agent of the canal company with Mr. Edwards or with Mr. Campbell in and about the selection of lands under either of those grants?

(Objected to by Mr. Redington, and objection overruled.)

A. I have no knowledge of any illegal practice or any attempted corruption of any kind, or of the shadow of it, either through myself or through anybody else, concerning our work in those selections.

Q. What do you know about any selections having been made by the canal company under the first grant of the territory about Keweenaw Bay, Lake Superior, in townships 51 and 52 north, marked red on this map (Exhibit —), introduced by Mr. Sibbald?—A. I cannot say very positively about that, because that was before I had to do with the lands. I know that after I came into the business I was told by the register that a certain amount (I forget how many thousand acres) of the first grant were ordered to be removed (and I think from up there) and to be shifted away. I think they were lands which were either mineral or were claimed to be mineral. If I am not mistaken they were the so-called silver lead lands, a certain number of thousand acres of them and perhaps lands from somewhere else. They had to be shifted, and I was told to shift them. I was told that I might go anywhere within a certain radius so as to take them from the lands nearest to the canal that were then vacant. I consulted with the register of the land office, and I placed these lands (I do not know how many thousand acres) somewhere near Lake Gogeby, and some of them down towards the Montreal River, but exactly where I do not know.

Q. On pages 17 and 18 of the Canal History is a letter from the Secretary of the Interior to the Commissioner of the General Land Office touching the list A—a list of tracts selected in 1866 by the agent of the State of Michigan under the act of March 3, 1865, for the ship canal company, which were on examination rejected as being designated mineral by the tract books. Look at list A, on page 18 of the Canal History, and state whether those lands are in those townships.

Mr. Payson asked Mr. Davis what he desired to prove in that regard.

Mr. Davis said he wanted to prove that there was a list A of 8,369 acres selected by the canal company in that territory which were rejected by the Interior Department as being mineral.

Mr. PAYSON. And the list appended shows, by Governmental descriptions, what the lands were.

Mr. DAVIS. Yes.

Mr. Redington said that he had no objection to the introduction of the list in evidence; not conceding, however, that that list covered the lands that were marked red on Mr. Sibbald's map.

Q. Look at the list shown you on page 18 of the Canal History, and state whether or not you relocated the quantity of lands, and if so, where.—A. I cannot say positively about that.

Q. Can you state whether that is the list of lands about which you were informed by the register and receiver that new locations were to be made?—A. I cannot swear that it is.

Q. But you know that there was a list of lands selected in that territory which were rejected?—A. Yes; some of the rejected lands came from that territory. Whether some of them came from somewhere else, I do not know.

Q. And you were directed to shift them?—A. Yes; to some point, not mineral lands, in solid alternate sections, and to select them from lands nearest the canal.

Q. Did you do so?—A. Yes; that is, we thought we did so.

Mr. DAVIS. I want to offer in evidence the letter on page 4 of the Canal History. It is the letter dated July 25, 1865, from Commissioner Edmunds to the register and receiver, Marquette, Mich. I will read the first paragraph. [Reading:]

After a full examination of the proof submitted from time to time through your office in connection with the geological survey of the Upper Peninsula, and a careful record of the whole subject of agricultural script locations in your district, we have

reached the conclusion to confirm all locations and allow existing applications of lands outside of, and a reasonable distance from, mineral formations—say from granite to conglomerate, inclusive, as shown by the geological survey of Foster and Whitney. The other formations, as shown by said map, are not considered mineral bearing, and locations in connection with them will be approved, if free from other objections.

Can you tell the committee (following that letter) what territory the canal company was excluded from?

(Objected to by Mr. Redington, and objection overruled.)

A. I should need Foster and Whitney's geological map to answer the question.

Q. You cannot designate it without reference to that map?—A. I cannot; and I think it is doubtful whether I could with the map.

Q. Do you know from your examinations of that country where the granite is, and where the conglomerate is?—A. I know where the granite is, but where the conglomerate is it is hard to say.

Q. Where is the granite in reference to Keweenaw Bay, which we have been just looking at?—A. What Foster and Whitney had in mind as granite is a different rock. What they denominate on their map as granite forms the Huron Mountains. I should say that 51, 29, and a part of 52, 29, and more or less of 51, 30, and 52, 30, and on the east side 51, 28, and parts of 52, 28 were in the Huron Mountains. I think so—parts of each of these townships.

Mr. PAYSON. Covering mainly the general section of the country marked with red spots near Keweenaw Bay?

The WITNESS. Yes; that is the Huron Mountain district; that is granite.

By Mr. DAVIS:

Q. Now, where is the conglomerate?—A. There is none there at all.

Q. What do Foster and Whitney call the conglomerate?—A. I do not know.

Q. Then the district which they designate as granite and conglomerate does not exist?—A. There are, undoubtedly, belts of conglomerate in the Upper Peninsula, but not in this neighborhood.

Q. How near is the nearest conglomerate to this district?—A. There is conglomerate in the mineral range of the copper district.

Q. The copper district is about Keweenaw Point, is it not?—A. Yes.

Q. Then if the conglomerates are about Keweenaw Point in the copper district, and the granite is in the Huron Mountains, where you have designated it, the lands between the Huron Mountains and Keweenaw Point (the copper district) are between the granite and the conglomerate, are they not?—A. Yes. You asked me where the granite was.

By Mr. REDINGTON:

Q. If I understand you, you commenced under Mr. Edwards, as register of the Marquette land office, to mark lands on the books of that office with the letter P or C; is that right?—A. Yes.

Q. When were you first in charge of that matter up there?—A. In May, 1867.

Q. You were there in that business while Mr. Edwards was register, and from that time until April, 1868?—A. Yes; part of 1867, and, I think, through all of 1868.

Q. And then you went on with the same business under his successor, Mr. Campbell?—A. Yes.

Q. What aid or assistance did it give you or the canal company when you came to make your final lists to have these odd sections marked off in advance? What advantage was it when you came to present

your final list to find that you had previously marked off a large part of the territory?—A. I had lists coming frequently, and one reason (perhaps the principal reason) for the advantage of these marks was this: The lands being withdrawn from market and not open to anybody else, the putting the marks on did not damage us with anybody else. We did not run the risk of losing by putting the marks on.

Q. You did not run the risk of losing by not putting the marks on?—A. I know. My duties were, in many cases, to send men out under contract to select pine lands. They were to receive so much an acre. It was an object for them to select lands with a lower muniment to them than the contract called for. And my practice was, when I received one list, to take another set of men, and send them into the woods with sealed directions to be opened after they got to a certain point, to go and overlook these same lands again. I sometimes did that two or three times, as a check against fraud. In the mean time having these lands marked on the books facilitated our work very much afterwards in seeing what lands we would keep.

Q. When you had received your reports from these different exploring parties—one, two, three, or four different parties—and when from their reports you had made up your mind what lands you wanted to keep, you then made out a list of those lands?—A. Yes; made out a final list.

Q. Then you went to the land office to have that list approved or certified to?—A. I forget whether the lists were certified at the land office or not.

Q. You went to the land office for some purpose?—A. I went to see whether the lands were open lands.

Q. What advantage was it for you to find other lands marked out?—A. It would have been no advantage if I had a set of plats in my own office, but a set of plats would cost about $1,500, and therefore I used the Government plats as a convenience. If you have a number of selections of pine lands it makes a difference in their value as to how they are grouped, whether they are grouped 40 acres here and 40 acres there, or 160 acres here or 160 acres there. You might take land having but 80,000 feet of pine if the adjoining land had 200,000 feet. And so the convenience was in reference to the final grouping of the lands.

Q. Then the marking on the plat books of the odd sections enabled you (when the reports came in) to see whether the lands selected were going to be in compact form, or so situated as to be in the right position with regard to each other?—A. That is it. Having all these lands marked upon the plat books I could then consider their relations to each other. It was simply for the convenience of grouping.

Q. Then there was no advantage in it and no object to be obtained by it except that when you came to compare the various reports of your explorers you were able to determine by these marks the respective positions of the different tracts?—A. That is it.

Q. And then you made out your final list having regard to those positions?—A. Yes.

Q. Did that consideration enter into the selections of the even sections? Did you select the even sections with reference to their being in contiguity with other selections already made or with reference to their being in particular localities or in a particular form?—A. I do not recollect much about the selection of the even sections. It was left until towards the end in many cases, I think; still I do not recollect so much about it.

Q. I want to get your best recollection about these even sections.

Have you any distinct recollection either one way or the other of marking off any even sections excepting those which you have already referred to as being within the Peninsula railroad limits?—A. I have no distinct recollection of it but I may have done so.

Q. Your memory does not serve you so that you can state whether or not you did it?—A. No; I can only state it with qualifications to which you would perhaps object.

Q. Do you know whether any even sections were marked off in that way by anybody else except yourself?—A. Not that I remember.

Q. Have you any knowledge of any such thing as that?—A. No.

Q. Did you always use the initial P?—A. No.

Q. You sometimes used a C?—A. Sometimes a C.

Q. Did you ever use the initial C with a little cross after it?—A. I do not know. I may have used it with a cross or have written 61 or 62, or some other designation.

Q. Have you any recollection of using the letter C with a little cross?—A. I have no recollection of it.

Q. If it should turn out to be a fact that even sections were marked off in that way in excess of the amount allowed to be selected, or actually selected would you say that that was an improper marking off in reference to the method which you were endeavoring to pursue?—A. I should say that I did a very foolish thing.

Q. And if anybody else did it, he did a very foolish thing?—A. Yes; unless he had a certified list.

Q. You spoke about the practice of the land office to consider the odd sections west of a line between 15 and 16 and north of town 40 as withdrawn. You mean withdrawn for the canal company?—A. My impression is that they were withdrawn before that for the Lac La Belle Company, and that the Portage Lake Canal Company inherited that withdrawal perhaps with an extension; I am not sure.

Q. You would say that the Portage Lake Ship Canal Company inherited something in the nature of a withdrawal from the Lac La Belle Company?—A. My impression is that that withdrawal existed and that it was not considered necessary to rewithdraw it. I may be mistaken, but that is my impression.

Q. Would you be surprised if you were informed that it was the reverse of that, and that the first withdrawal was made in 1865 for the Lake Superior Ship Canal Company. You proceeded on the assumption that the first withdrawal was for the Lac La Belle Company?—A. Yes; that was my assumption.

Q. I think you said in your direct examination that among the marks which appeared upon the plat books of the Marquette office were numbers designating descriptions of the lands entered by private individuals, and that the odd sections in railroad lands were marked as such. Did I correctly understand you?—A. I think that all lands within the Marquette, Ontonagon and Houghton Railroad limits, were marked M and O, but I do not recollect with reference to any other road, even the Peninsula road.

Q. Do you recollect any designation on the plat books with reference to the Ontonagon and State Line road, or any marks of O. S.?—A. All that I remember is that there was a Chicago, Saint Paul and Fond du Lac grant, but I do not recollect whether those lands were marked upon the books or not.

Q. If they were marked you do not recollect the initials?—A. I do not recollect that they were marked.

Q. Do you recollect that they were marked M., H. and O.?—A. No.

Q. Or O. and S.?—A. I do not recollect any lands marked O. and S. I am pretty sure that it could have been hardly so because the road was not known as the Ontonagon and State Line road in 1867. It was only known as the Chicago, Saint Paul and Fond du Lac road. I have no recollection of any designation on these lands that you are speaking about. I think there were only two initials, M. and O., for Marquette and Ontonagon. I am not certain.

Q. Can you state, of your personal knowledge, that the even sections which you marked off with the letter C, were all of them listed to the canal company, or taken by the canal company in satisfaction of that portion of the grant which the law allowed the company to take from even sections?—A. I cannot say as to that, because the final work was done after I left.

Q. Are you able to state, as matter of fact, that the company did not mark off more than 50,000 acres in even sections?—A. I am quite positive that I did not send any lists for 50,000 acres in even sections, and I have no recollection of having marked any even sections on the plat books except in the Peninsula grant.

Q. You think that you selected all but about 18,000 acres of the last grant?—A. That is my impression.

Q. When did Mr. Frost take charge of the business?—A. I do not recollect. It was after I had finished my business. I do not know that he succeeded me. I do not know who succeeded me. I only know that I left the selections under the grant unfinished.

Q. Did I understand you to say that you found selections made under the first grant through townships 51 and 52?—A. There were selections made there under the first grant.

Q. Did I understand you that you made those selections up there in the first instance in the neighborhood of the Huron Mountains?—A. No. I selected none of the lands under the first grant before the shifting.

Q. Were those selections made under the first or under the second grant?—A. Under the first grant.

Q. And then somebody called your attention to the fact that they were improperly made there?—A. I have been trying to recollect anything connected with that. I do not recollect all the circumstances. All that I remember is that a certain body of land (some thousand acres) of the first grant had been rescinded; and, as far as I can recollect, it was because the lands were said to be of a mineral character. Whether these instructions came to me directly from the canal comany, or whether I was told by Mr. Campbell that the change had to be made, I do not recollect.

Q. And you do not recollect where you located the lands?—A. Only in a general way—that some of them were near Lake Gogeby and some of them, I think, towards Montreal River.

Q. Down towards the northwest corner of this map [indicating]?—A. Yes, sir.

Q. But, of course, you relocated them as selections made under the first grant?—A. Wholly, and they were taken solidly.

Q. In reference to the Northern Peninsula of Michigan, what do you as a mineralogist call mineral lands?—A. I call mineral lands, lands that carry iron ores, copper, gold, silver, or any useful mineral excepting it be in a wide-spread mass of rock where the mineral would have no value on account of its being very widely spread.

Q. I understand that, according to your recollection of the Whitney

and Foster map, there is a tract of country in and about Huron Mountains which they term granite?—A. Yes, sir.

Q. You did not find it so as a matter of fact?—A. I found that the great bulk of the land which Foster and Whitney have marked as granite in that country is another rock, gneiss and schistose rocks, which are not considered granite now, and would not have been considered granite then, by any proper designation.

Q. The conglomerate that you refer to is situated over in the copper mining district up upon Keweenaw Point?—A. The only conglomerates that I know anything about are in the copper range.

Q. And the region designated as granite by Foster and Whitney's report is over there in townships 51 and 52 [indicating on the map]?—A. Yes.

Q. And you know no other conglomerates and no other granite there except in isolated tracts?

The WITNESS. Do you mean granite in the sense that Foster and Whitney spoke of it?

Mr. REDINGTON. Yes.

The WITNESS. Oh, yes; there is a good deal of granite in the Upper Peninsula.

Q. Where is it—scattered around?—A. No; it forms large bodies.

Q. Whereabouts in the Northern Peninsula, aside from this portion of the Huron Mountains, did you find that kind of granite described in Foster and Whitney's report?—A. From a point a very few miles south of the Marquette and Ontonagon Railroad down to the north of town 42 and east of the Machigamig River. It is the basin of the Esconaba and a part of the Ford River.

Mr. PAYSON. All east and south of the definite location of the Marquette Railroad.

The WITNESS. Pretty nearly all included in the Marquette, Houghton, and Ontonagon grant and the Peninsula Railroad grant.

By Mr. REDINGTON:

Q. Is there anything of it in the southwest portion of this part that we have been looking at?—A. There is.

Q. Where?—A. In the country south of Lake Gogeby down toward the Wisconsin line.

Q. Then I understand you to say that from Lake Gogeby here down in the southwestern direction toward the Wisconsin State line [indicating on the map] you find granite?—A. We find what Foster and Whitney designate granite—the same formation.

By Mr. DAVIS:

Q. Referring to the map on which the lands south of Lake Gogeby are marked red, state whether they cover the territory known as the granite territory about which you have just testified?—A. I do not know that it is generally known as granite territory. They cover the same geological formation which Foster and Whitney have designated as granite elsewhere.

Q. How far south and how far west of Lake Gogeby does that granite extend?—A. I do not know how far south, as I have been only a few miles south of it myself.

Q. It breaks out in town 47, 42?—A. Somewhere up there.

Q. It commences at 47, 42, at Lake Gogeby and runs west?—A. I should say that it runs from a point about 4 or 5 miles north of the south end of Lake Gogeby to where the northern line of town 46 crosses the

Montreal River, or a little north of that, in a general way, with a variation of a mile or two.

Q. And it lies south of that line?—A. South of that line; somewhere in that neighborhood.

By Mr. REDINGTON:

Q. How far does the granite region extend to the east of Lake Gogeby?—A. That I cannot say. I have no knowledge of the country more than 5 or 6 miles east of Lake Gogeby.

By Mr. DAVIS:

Q. Running on the same line?—A. I do not know whether it swerves north or south.

Q. Starting from Lake Gogeby does it run east through town 47?—A. Yes.

Q. You say that on those plat books you would not have marked even sections with a cross because it would have been foolish. Why would it have been foolish to have marked even sections with a cross except in the 50,000 acres that the company was entitled to take?—A. What I meant was that to have marked any lands that we wanted, and for which we did not file a list, would have been foolish, because the fact that we had selected them would have called attention to their value and have caused them to be entered by other people.

Q. You say that you were obliged to take the lands which were transferred from one portion of the State to another solid; what do you mean by that?—A. I received instructions from the register. I understood that there was a difference between the first grant and the second grant. Under the first grant all the lands were to be taken in the alternate odd sections without rejecting any. That is what I meant by taking them solid.

Q. Who gave you the instructions about shifting these lands?—A. As I said before I do not know that I had any instructions from New York, but the work was done under the supervision of the register.

By Mr. REDINGTON:

Q. Did the register tell you anything about taking them in the tiers of sections nearest the canal?—A. Yes.

Q. Did you do that?—A. Yes.

Q. Did you do that?—A. Yes. I know that he was very particular in telling me that I could not go to such and such places because they were farther off.

Q. What places did he tell you you could not go to because they were farther off?—A. Among those lands which I had marked on the plat books as being second-grant lands, there were lands that carried loose pine which we finally took. My object in selecting these lands in the first grant was to put them (even if I put them solidly) into these towns where they would be sure to cover something valuable. As nearly as I can recollect there were some lands east of Gogeby in the second grant which had pine and which had been rejected in the second grant, but which we thought would be worth taking for the first grant. But they were too far off and I was told that we must take them nearer the canal.

Q. Can you tell me where you relocated these lands?—A. I cannot tell you exactly.

Q. Suppose these lands colored on this map in green [indicating] represent the actual selections made under the first act, do you mean to

say that if your relocation should fall over here to the west of the second arc of the circle [indicating on the map] these lands so colored in green would be nearer the location of the canal than the red tracts marked in there, above and inside the first arc of the circle [indicating on the map]?—A. I do not recollect about that. I only remember that the register finally stated that the lands here [indicating] were the nearest to the canal.

Q. The canal being about there [indicating on the map], which would be nearest to the location of the canal, these lands colored green southwest of the black line [indicating] or the lands colored red at the northeast of the line [indicating]?—A. If these arcs are drawn true from the radius of the canal, then, so far as actual distance is concerned, I should suppose that the lands east of Gogeby would be nearer to the line of the canal than the lands west of this circle [indicating].

By Mr. DAVIS:

Q. You were told by the register and receiver to take the lands in solid block?—A. I was told so by the register.

Q. Were you or were you not particularly instructed to take them nearest the line of the canal?—A. I was.

Q. And when you went to select them elsewhere, you were prohibited from doing so?—A. Yes; that is my recollection.

Q. And to the best of your recollection you did select them nearest the canal?—A. Yes.

By Mr. REDINGTON:

Q. Did you do so with your recollection refreshed by this map?—A. I do not know what other considerations may have ruled.

Q. Looking at this map and going on the assumption that this map correctly designates (in green) the actual selections made, do you still mean to say that you made the relocation of lands nearest the canal?—A. I do not know what vacant lands there were in there [indicating on the map]. Assuming that these lands were all vacant they would have been nearer (being inside the same circle) than the lands outside of it, of course.

By Mr. DAVIS:

Q. But whether these lands were liable to be taken at that time by the canal company under its first grant, you do not know?—A. I do not know.

By Mr. REDINGTON:

Q. Were any of these various orders and instructions that you speak of communicated to you in writing?—A. Do you mean in reference to the shifting of the first grant?

Q. Yes.—A. I do not recollect; I cannot say.

Q. You think that you received your instructions in conversations with the then register?—A. I am under the impression that the whole of this work was done from conversations with the register.

Q. Were you ever shown any order on the subject from the General Land Office?—A. Probably I was.

Q. Have you any recollection of it?—A. I have not.

Q. Then you have nothing on the subject in writing?—A. No.

Q. And you do not recollect whether there was anything in writing on the subject?—A. I do not recollect.

By Mr. DAVIS:

Q. At the time you made the shifting of these lands did you know anything about this territory east of Lake Gogeby which is shaded red [indicating on the map]?—A. A good many selections were taken through that country under the second grant, and we considered it a more or less good pine country.

Q. If you had been free to select lands east and south of Lake Gogeby, would you have made your selections of the shifted lands from that territory?—A. I know nothing about the country over here [indicating on the map], with the exception of a few sections; but I knew considerable about this other country [indicating], and I should have selected any large body of land that I had to select solidly east of Lake Gogeby.

Mr. PAYSON. What was it that prevented you?

The WITNESS. I cannot say unless I was prevented from doing it by the register.

By Mr. REDINGTON:

Q. But you do not recollect that you were?—A. I do not recollect.

Q. And you do not pretend to say that you were?—A. I do not pretend to say that I was. with reference to the great bulk of it.

Adjourned until Monday, April 21.

WASHINGTON, D. C., *April* 21, 1884.

HENRY W. SAGE sworn and examined.

By Mr. MONTGOMERY:

Question. Where do you reside?—Answer. Ithaca, N. Y.

Q. Have you had interests in Saginaw Valley, Michigan?—A. Yes.

Q. Did you know John F. Driggs in his life-time?—A. Yes.

Q. When did you first know him?—A. Fifteen or eighteen years ago.

Q. Do you know Mr. Runnells, now of Saginaw?—A. I do not.

Q. Tell us about a land transaction in the Upper Peninsula of Michigan, in which you were interested about twelve years ago with Mr. Driggs.—A. Mr. Driggs came to me twelve or fifteen years ago, and wanted me to assist him with the loan of some money. He offered me, as security, the certificates of location of a large tract of land, some 12,000 or 15,000 acres in the Upper Peninsula of Michigan. I loaned him the money, and he paid it to me within the time he had agreed to do.

Q. Do you remember within what time that was?—A. I think it was within a few months after he got the loan.

Q. Can you tell the amount of the loan?—A. I cannot tell exactly; but it was about $12,000 or $15,000.

Q. Did you have any security except those certificates?—A. None whatever, except perhaps his notes.

Q. And he paid you within the time that he contracted to pay?—A. Yes.

Q. And the interest?—A. Yes.

Q. What became of the certificates?—A. I believe they were transferred to a man named Cheeseboro.

Q. The title of the lands never went to you?—A. The certificates of location were made to me, but I never had any other title.

Q. And the title subsequently went to Cheeseboro?—A. So I understood.

Q. And that was your entire connection with it?—A. Yes.

Q. You do not know how the lands were marked upon the books in the land office at Marquette?—A. I do not.

Q. You simply dealt with Mr. Driggs on the faith of these certificates?—A. Yes, sir.

By Mr. REDINGTON:

Q. When the certificates were presented to you, were they in your name?—A. I think Mr. Driggs had them issued in my name. That is my recollection.

Q. In pursuance of the same arrangement?—A. I think that the certificates were either in my name, or were assigned to me. It was a matter of personal friendship between Mr. Driggs and myself, and I had such faith in his integrity that I did not examine into the matter very closely.

Q. Have you any recollection of seeing certificates of land, or anything of that kind, in Mr. Mr. Driggs's possession in any other name but yours?—A. No, sir.

Q. The first that you knew about it was that the certificates were in your name?—A. Yes; or that I had an assignment of them.

Q. Did you afterwards deed or reconvey the lands to Mr. Driggs in any way?—A. I think not.

Mr. PAYSON. After the loan was paid, have you any recollection as to how you retransferred to him the collateral which you had for the loan?

A. I have not a distinct recollection. My impression, however, is that I had an assignment of these certificates or else that the certificates were made in my own name; I am not certain which. But facts that occurred since made me think that the certificates were in my name, because I was told that there was a large quantity of land located out there in my name, which I could not find that I owned.

Mr. PAYSON. In any event it was but a transfer of the paper in some way?

The WITNESS. Yes; and I had no further connection with the matter.

Mr. DAVIS. In other words, you loaned Mr. Driggs some money on some land certificates?

The WITNESS. Yes, that is all.

MICHAEL W. MULLALY recalled.

By Mr. REDINGTON:

Question. Your attention was called the other day to a memorandum list of lands, partly prepared by yourself at the local land office in Marquette, with certain marks of a peculiar character in the right-hand column. Look at the list which I show you now [handing the paper to witness], and see if that is the same list?—Answer. Yes.

Q. Glance through the list, and tell me with reference to the entries thereon made in the name of Mr. Sage, whether or not the right-hand column shows the letter C, or the letter C and a cross-mark, wherever it shows anything? How many of these tracts of land in Sage's name are thus marked off with the initial C, or C and a cross?—A. Twenty-seven of them with a C and a small cross.

Q. Have you any idea what the C and the small cross mean?

(Objected to by Mr. McCarter, and objection sustained.)

Q. Is there any such mark in use in the Marquette land office to distinguish one tract of land from another?—A. Not that I know of.

By Mr. DAVIS:

Q. On this same list there are two tracts entered by H. W. Sage, which, from the marking in the right-hand column, it appears were marked E?—A. Yes.

Q. And there are various tracts on this list of lands that were entered by Mr. Sage where it appears from the list that there had been marks on the plat books which were erased, are there not?—A. Yes, sir.

Q. And there is one tract marked with a C, and a C and small cross that appears entered with the initials H. W. S.?—A. Yes.

(The list was put in evidence.)

THOMAS R. BENTON sworn and examined.

By Mr. REDINGTON:

Question. What is your present occupation?—Answer. I am a clerk in the General Land Office.

Q. In what division?—A. In the railroad division.

Q. How long have you been so employed?—A. I have been in the railroad division since 1879.

Q. Before that how long were you in the General Land Office?—A. I was there from 1871 until the fall of 1876. After that I was out up to August, 1879.

Mr. Redington said that at this point he would offer in evidence the certified copy from the files of the General Land Office of a map showing the limits of the Ontonagon and State Line, and the Ontonagon and Marquette and State Line railroad grant.

Mr. DAVIS (to Mr. Redington). You contend that, so far as the limits of these two roads are shown, this is a map of them?

Mr. REDINGTON. I introduce it for exactly what it purports to show, the limits of the Ontonagon and State Line, and of the Ontonagon, Marquette and State line railroad grant.

Mr. DAVIS. All right.

(The map was put in evidence, marked Exhibit No. 22.)

Mr. REDINGTON. I now introduce in evidence a letter found on pages 35 and 36 of the Railroad History, from Commissioner Wilson to the register and receiver of the land office at Marquette, Mich.

Mr. DAVIS. I agree that you may put into the record any paper published in the Railroad History or in the Canal History, that either side may do it subject to corrections for inaccuracies.

Mr. REDINGTON. That is all right; I agree to that.

(The letter was put in evidence, marked Exhibit No. 23.)

Mr. REDINGTON (to the witness). This letter reads: "Gentlemen, for your guidance in disposing of the public lands I inclose herewith a diagram of the district of lands subject to sale at your office, showing the lines of route, and of the 6 and 15 miles limits of the railroad through the same, to aid in the construction of which a grant of lands was made to the State of Michigan by act of Congress, approved June 3, 1856," &c. Is the notice referred to in that letter by number (658) the notice immediately preceding the letter found in this volume, being the notice of restoration?—A. I presume it is.

Mr. DAVIS. We admit that it is.

(Mr. Redington offered the notice in evidence, which was marked Exhibit No. 24.)

Q. The letter of April 27, 1860, to which your attention has just been called, mentions a diagram?—A. Yes.

Q. Have you on file in the General Land Office, as an official record, anything showing what the diagram there mentioned was?—A. We

have township plats in the office. The limits of the road are laid down on township plats in the office. We have no knowledge of the original diagram. Probably a copy was not retained. The limits are located on the township plats. I have here two diagrams on different scales [presenting them]. They are both supposed to have been prepared from the township plats.

Mr. PAYSON (to Mr. Redington). Do these show the limits of the railroad grant?

Mr. REDINGTON. They show the limits of the railroad grant, and they are reproduced to show what the diagram was that was sent to the register and receiver at the Marquette land office by the letter of April 27, 1860. In other words, they are a reproduction from the original records of the land office of that diagram.

Mr. PAYSON. They are intended to show the 6-mile limits of the Ontonagon and State Line road?

Mr. REDINGTON. Yes.

Mr. DAVIS. The first notice is a restoration on its face of all the lands outside of the 6-mile limits of the Ontonagon and State Line road. That was qualified by a letter a few days afterwards stating that notwithstanding the notice the lands within the 15-mile limits were also selected by the company.

Mr. PAYSON. That is your deduction from the letter?

Mr. DAVIS. Yes.

Mr. REDINGTON. The moment we digress we get into this interminable mess every time. The statement just made by Mr. Davis as to the construction of the letter of April 27, 1860, I do not admit at all.

Mr. PAYSON. The plats that you produced are assumed by you to be reproductions from the records of the General Land Office of the diagram named in the letter of April 27, 1860.

Mr. REDINGTON. Yes. Not only assumed to be, but the witness has already testified that they are. [To the witness.] Look at this map [handing one of those produced] and say whether that is one of the maps referred to by you as having been reproduced from the original records of the General Land Office.

A. This map does not belong to our division. It belongs in the division of public lands. The other is a map that we use in our division. Both are supposed to be produced from the township maps.

Mr. REDINGTON. I show you now the map on a large scale (one of the two produced by the witness), and I ask you to state to the committee what official indorsement it bears as to the method of its preparation?

A. "Copy of the diagram prepared and verified by comparison with the township plats sent to the register and receiver, Marquette, Michigan, June 8, 1883.—F. B."

Q. This large map is a map that belongs to the files of the railroad division?—A. Yes.

Q. What is the map you are now looking at [referring to the second diagram produced by the witness]?—A. It is supposed to be a copy of the other map on a different scale.

Q. Have you compared the two so as to see whether they are in substance the same?—A. I have not; but the comparison was made on Saturday.

Q. Do you know as a matter of fact, from official investigation in the General Land Office, that the two maps are similar?—A. There are slight variations between them. There are one or two points which are marked on one that are not marked on the other.

Q. How many 40-acre tracts are there on one map that are different

from the other map?—A. Eight 40-acre tracts marked on railroad limits are wrong. That is, the diagrams do not agree.

Q. Which is right, the small diagram or the large one?—A. I do not know. I have not compared it with the township plats.

Q. Looking at the small map, state whether the certified copy already introduced in evidence as Exhibit No. 22, is a reproduction of it.—A. This map in evidence was compared with this other one on Saturday, and was certified by the office. It was presented to the office for certification; and, after comparison, the Commissioner certified it.

Q. And this Exhibit No. 22 is a reproduction of the diagram that was sent to the local office at Marquette, under date of April 27, 1860, with that letter?—A. It is supposed to be. It is a limit to that grant as laid down on the township plats in the General Land Office; and at the time that the original diagram was prepared the limits were laid down on the plats.

Q. The original limits and the limits of 1856 were put down on the plats?—A. Yes.

Q. And when it became necessary to restore the records at the local office at Marquette, and when it was done by this letter of April 27, 1860, transmitting a diagram, the diagram that was sent was prepared from the limits as shown by the township plats?—A. The diagram of 1860 was not sent for the purpose of restoring the records of the local land office at Marquette.

Q. The diagram sent with this letter was prepared from the original data which had been put on the township plats at the time of the original reservation?—A. That is true; two were prepared at once.

Q. Is there on file at the General Land Office any record of any restoration other than that to which your attention has already been called, except the restoration of 1868?—A. Yes, sir; there was a restoration in 1874; and there was a restoration of even sections in 1860; and there was a restoration of the lands for the Lac la Belle Ship Canal in 1871.

Q. Between 1860 and 1868 was there any restoration of lands within the limits of the Ontonagon and State Line grant?—A. There was not, so far as I am aware, from the records.

Q. Then came the restoration of 1868?—A. Yes, sir.

Q. That was the one that was pending in the local office at Marquette at the time the office was burned?—A. Yes; the office was burned about the 10th or 12th of June, 1868; and the restoration was to have taken effect on the 15th of June.

Q. Can you tell me what the limits or boundaries of the Duncan land office were at the date of the first withdrawal for the Ontonagon and State Line grant in 1856?

Mr. Davis remarked that the record and the law would show that.

Mr. Payson asked the witness whether the law fixed the boundaries.

The WITNESS. Yes, sir. In 1862 there was an act passed transferring a portion of the Duncan district, or of the Sheboygan district, to the Lake Superior or Marquette district. The act was passed on the 16th of July, 1862.

Q. What, at that time, was the northern limit of the Duncan land office?—A. It was between townships 41 and 42, south of that line, and west of Lake Michigan. The line reached Lake Michigan between 12 and 13.

Q. All the land above that between those two townships was included in the Sault Ste. Marie office at the time of the transfer to the Marquette office?—A. Yes.

Q. And subsequently the Marquette land office was created to include

all of the lands in the Northern Peninsula?—A. No, sir; the land office was simply removed from Sault Ste. Marie to Marquette, without any change of boundaries.

Q. When was that?—A. Eighteen hundred and fifty-seven.

Q. At what date were the lands which were formerly in the Duncan land office transferred to the jurisdiction of the Marquette land office?—A. The records of the General Land Office show that on September 14, 1862, a letter was directed to the register at Traverse City directing him to close his office for the sale of such lands on the 15th of October, 1862; and on the 5th of September, 1862, the register and receiver at the Marquette land office were directed to give notice of the transfer to that office, and to commence the sale of such lands as soon after the 15th of October, 1862, as possible. I do not know at what date the Marquette land office was opened.

By Mr. DAVIS:

Q. Referring to this diagram (Exhibit 22) and to Exhibit 23, which advises the register and receiver as follows: "I inclose herewith diagram of the district of lands subject to sale at your office," do I understand you to say that that diagram, or a copy of the diagram, is now among the records of the General Land Office?—A. No, sir.

Q. It cannot be found there?—A. It cannot be found there. I do not know whether it was retained in the form of a diagram, but its limits were laid down on the township plats.

Q. That diagram, you say, cannot be found?—A. It cannot be.

Q. Can you tell the committee what diagram it was that was sent to Marquette?—A. I cannot.

Q. You only know that there is such a diagram in the General Land Office?—A. I know that.

Q. And what diagram that was which was sent to Marquette, you do not, of your own knowledge, know?—A. I do not.

Q. You produce here a plat, marked Exhibit No. 22, and two other maps, and I understand you to say that this large map, which you produce, is a map that was made from the plat books in the General Land Office?—A. Yes.

Q. And on the plat books in the General Land Office there are railroad limits marked?—A. There are.

Q. And those railroad limits are reproduced on this map which you produce?—A. Yes.

Q. And this other small map, which has not been offered in evidence, is supposed to be copied from the big map?—A. Practically.

Q. And the exhibit that has been offered in evidence is copied from this small map?—A. Yes.

Q. And these simply show the limits of the railroad grant as they appear on your plat books?—A. Yes.

Q. And any testimony which you have given about the diagram inclosed in the letter of April 27, 1860, being the same as this exhibit, is inferential?—A. I only know that this map is derived from the records of the General Land Office.

Q. And from that you infer what?—A. That the plats showed the limit of the railroad grant.

Q. What do you infer from the records of the General Land Office in regard to the diagram inclosed in letter of April 27, 1860?—A. That the diagram showed these limits just as the plat books did.

Q. That is a matter of inference on your part?—A. Yes.

Q. Are you prepared to say that that diagram did show the same as the exhibit shows?—A. I am not.

Q. All that you know about what the diagram did show that accompanied the letter of April 27, 1860, is a matter of inference?—A. Yes. The office at that time was in the habit, when it sent out diagrams, of laying the limits down upon the township plats. They were supposed to be the same.

Q. And therefore you infer that they are the same?—A. Yes.

Q. And that is all that you know about what that diagram did show?—A. Yes.

Q. Do you know whether any lands were ever selected within the 15-mile limits of the Ontonagon and State Line Railroad by the railroad company?—A. I do not think there have been formal selections made of any lands within the 15-mile limits of that road. If they have been no selections have been admitted.

Q. Is there anything on the records of the General Land Office to show that the Ontonagon and State Line road selected any lands within its 15-mile limits?—A. To answer that properly, I will have to make an explanation. Before 1866, the office, at the request of the railroad companies that they should make a formal selection of lands, granted the privilege. The grant was of alternate sections, selected under the direction of the Secretary of the Interior; and the General Land Office simply required the companies to select whether they would take the odd or even numbered sections. That is all that was required of them. There is in the office a letter from P. F. Smith, selecting, as agent of the Chicago, Saint Paul and Fond du Lac Railroad, the odd-numbered sections within the 15-mile limits of the grant. He does not specify the grant.

Q. What is the date of that letter?—A. Eighteen hundred and fifty-eight, I think; but I am not positive.

Q. Can you produce a copy of that letter?—A. Yes; I can produce the original.

Q. Will you produce a certified copy of it?—A. I will. Before the passage of the act of 1864, requiring the railroad companies to make formal selections, the office did not require the indemnity selections to be made, tract by tract. The agent of the State simply elected to take the odd or even numbered sections. The office then would make up the indemnity lands from the lands nearest the location of the road.

Q. How could the agent from the State select indemnity lands from the even-numbered sections?—A. He could not, at that time, from the even-numbered sections.

Q. He could only select them from the odd?—A. Only from the odd.

Q. Were any lands within the 15-mile limits of the Ontonagon and State Line road designated on the books of the General Land Office as selected by any railroad company?—A. Not on the tract books.

Q. Were they on the plat books?—A. The plat books do not show it.

Q. On what books would the designation of these lands properly be?—A. On the tract books.

Q. Are there any such designations on the tract books?—A. There are not.

Q. Then this letter, wherein the Commissioner says that all the vacant odd-numbered sections have been selected by the agent of the State in lieu of the lands disposed of in the sections granted, is a mistake, is it?—A. No; I think that when he uses the word "selected," he means the word "elected." The correspondence in the office shows that the office did not then require a formal selection. The railroad companies did

not have to go to the register and receiver at a land office and file a list. They simply elected to take the odd or the even numbered sections, and the lists were brought to the General Land Office.

Q. Then they had not been selected at that time?—A. The agent of the State, or the agent of the railroad company, P. H. Smith, had filed his election.

Q. Then the only evidence that Commissioner Wilson had for saying that the lands within the 15-mile limits had been selected by the agent of the State was a letter that was on file there from one Smith, agent of the railroad company?—A. Yes.

Q. About which letter you have testified, and which you propose to produce?—A. Yes, sir.

Q. Had the Commissioner any other evidence of it?—A. Not that I know of.

Q. You say that no lands were restored within the limits of the Ontonagon and State Line grant between 1860 and 1868?—A. Not so far as I know of.

Q. Was there not a restoration on the 20th of April, 1860?—A. You said between 1860 and 1868.

Q. Was there not a restoration of lands granted under the railroad act of June 3, 1856, on the 1st of August, 1866?—A. Yes. That was a restoration of even-numbered sections within the 6-mile limits of the Chicago and Northwestern Railroad. That was notice No. 714, I think. It is printed on page 83 of the Canal History. The notice is rather blind. It does not show what the restoration is. It was the even-numbered sections between the 6 and 15-mile limits.

Mr. REDINGTON (to Mr. Davis). You have got it out that this does not come within the Ontonagon and Brulé River line?

Mr. DAVIS. Yes. [To the witness.] The father of this map [indicating] is the great big map. That is the source of the information?

The WITNESS. I judge it is.

Mr. Davis offered the big map in evidence.

Mr. Payson asked what point there was about it.

Mr. Davis replied that the only point was that the map which Mr. Redington had offered had all sorts of marks on it.

Mr. Redington stipulated that no marks on that map would be referred to, except the limits of the railroad grant.

Mr. DAVIS (to the witness). Have you ever examined the records of the General Land Office to see whether the Ontonagon and State Line Railroad Company could, at the time this map of definite location was filed, fill its grant within the 6-mile limits?—A. No, sir; I have not, and I do not think it possibly could, for one single sale of a 40-acre tract would prevent it.

Q. That can be ascertained at your office, can it?—A. Yes.

Q. The exact number of acres short can be ascertained at your office?—A. It would take some time to do it. We would have to go through the grant acre by acre.

Q. Whether or not the Ontonagon and State Line Railroad Company was entitled to go outside of the 6-mile limits, and into the 15-mile limits, is a matter not settled at the General Land Office?—A. I do not know that it was ever under consideration.

Q. Are you familiar with the tract books in the General Land Office?—A. Yes; more or less.

JOHN L. WEST sworn and examined.

By Mr. REDINGTON:

Question. What is your present occupation?—Answer. I am a clerk in the General Land Office.

Q. How long have you been so employed?—A. Since August, 1879.

Q. In what particular branch of the office?—A. In the public lands division; designated division C.

Q. Of what particular books or papers are you in charge?—A. Of the books and records of Iowa, Michigan, and Louisiana.

Q. Including the tract books?—A. Including the tract books.

Q. The tract books in the General Land Office show the disposition made of pulic lands between any two particular dates, do they?—A. They do.

Q. State whether, at my request, you have made a computation of the amount of lands disposed of in the Marquette district between the 1st of April, 1868, and the 1st of January, 1879.—A. I have made such a computation between the 17th of April, 1868, and the 17th of January, 1879.

Q. State how many acres of land were disposed of in that district by the United States within those dates to all persons or applicants other than corporations or railroad grants. If you have them by years, state them by years.—A. The data which I have here [producing the memorandum] is mainly from the annual reports.

Q. What is the total amount of land disposed of in that district between those dates?—A. 1,235,926.28 acres.

(Mr. Redington offered the memorandum in evidence, and it was marked Exhibit 25.)

Q. Please state what memorandum appears on the tract books in the General Land Office indicating any release by the governor of the State of Michigan to the United States of any lands within the Ontonagon and State Line Railroad grant.—A. "All of 19, 49, 37—611.52 acres, grant to the Chicago, St. Paul, and Fond du Lac R. R. C.; act June 3, 1856, approved December 12, 1861. Relinquished by governor, August 14, 1870."

Mr. PAYSON. That is a single entry affected by it?

The WITNESS. Yes. I examined many of them, and this is a sample of the rest.

By Mr. DAVIS:

Q. Are we to understand that such a memorandum is opposite the lands within the grant of the Marquette, Ontonagon and State Line Railroad?—A. Yes.

Q. About this list of lands which you produced as being those entered within certain years; this would include all the lands sold to corporations, would it?—A. No. Lands disposed of by private entry—cash entries, scrip selections, swamp locations, warrant locations, &c.

Q. Then the lands embraced in this list are not lands that were sold to corporations?—A. No; those lands are not embraced in this list at all, unless they were bought by corporations and entered as an ordinary private entry. Lands taken by corporations by virtue of grants to the corporations are not included.

Q. Does this list which you produce include all lands that were entered in the Marquette district by individuals or corporations during the years specified?—A. Yes; of the ordinary character of entries.

Q. What lands are excluded from this list?—A. Lands embraced in selections by virtue of grants.

Q. Nothing else is excluded?—A. Nothing else.

Q. Referring to the designations in the tract books of the General Land Office, is there any different designation in reference to the lands in the common limits of the Ontonagon and Marquette branch of the Chicago, Saint Paul and Fond du Lac Railroad as to their relinquishment?—A. There is.

Q. What is the difference?—A. I will give you one tract which I selected in the common limits. (Reading:)

All of 35, 43, 35—640 acres; grant to the Chicago, Saint Paul and Fond du Lac Railroad at intersection of Marquette and Ontonagon branches, act June 3, 1856, approved December 12, 1861. Relinquished by governor and railroad company May 2, 1868.

Q. And that memorandum which you have read applies to all the lands in the common limits?—A. I assume so. I did not examine them all. That is a sample.

Q. Did you examine the books in relation to any memorandum upon the tract books in the common limits of the Ontonagon branch of the Chicago, Saint Paul and Fond du Lac Railroad and the Marquette and Ontonagon Railroad?—A. I did not examine them specially at this time; but I know that there is a different memorandum in regard to that. I would not undertake to give it *verbatim*, but I recollect the substance of it.

Q. What is the substance of it?—A. That there was a relinquishment and a subsequent approval to the Marquette and Houghton Railroad Company.

Q. A relinquishment by the governor of the lands belonging to the Ontonagon branch?—A. Yes; and a subsequent approval.

Here the committee took a recess.

After the recess WILLIAM O. CONWAY was sworn and examined.

By Mr. REDINGTON:

Question. What is your present employment?—Answer. I am a clerk in the General Land Office, engaged in examining letters prepared for the signature of the Commissioner, to see that they are according to law and the regulations and to the decisions of the Department.

Q. How long have you been employed in and about the General Land Office?—A. For about thirty years, since 1854.

Q. Has your connection with the office made you familiar with the books of the General Land Office, and also with the methods of entering lands at local offices?—A. Yes, sir; in a general way.

Q. State the method pursued at a local land office in disposing of any of the public lands at ordinary entry.

(Objected to by Mr. Davis, and after argument, the objection was sustained.)

Mr. Redington made a proffer of the testimony which he offered. He said: I offer to prove by this witness that, by the rules and regulations and practice of the General Land Office, as the same have subsisted for many years, all applications for the entry of public lands are required to be made in writing, and at the time of presentation to be allowed or rejected by the register, who thereupon gives to the applicant a certificate, which he is immediately required to take to the receiver, to whom he must pay the amount of money required; and that entries shall be immediately made on the books of the register's office of the entire transaction; and particularly that the same shall be noted immediately on the tract books in the local office.

The testimony was excluded.

JOHN C. ELLIS sworn and examined.

By Mr. REDINGTON:

Question. You sometimes do work for me in my office?—Answer. Yes, sir.

Q. How long have you resided in Washington?—A. Twenty-one years.

(Mr. Redington offered in evidence a certified list of entries made upon odd sections within the 6-mile limits of the Ontonagon and State line grant prior to September 17, 1880.

The list was admitted in evidence, and was marked Exhibit 26.)

Q. Look at this list, and tell me whether you have made from this list any general summary of entries made there within certain dates.—A. I have.

Q. Look at this paper [handing one to witness], and say whether it is a compilation or summary of such entries between the 1st of April, 1869, and the 29th of May, 1873.—A. It is.

Q. Look at this recapitulation, and tell me the amount of lands disposed of between those dates as represented on that list.—A. Twelve thousand seven hundred and eleven acres between the 1st of April, 1868, and the 29th of May, 1873.

Q. To how many individuals were those lands sold?—A. Eleven.

(Mr. Redington offered the paper in evidence, and it was marked Exhibit 27.)

Q. Is this recapitulation correctly made from the list already shown you?—A. I believe that it is entirely correct. If there is anything whatever wrong in it it is merely a clerical error.

Q. It was intended to be a true compilation made from this list?—A. Yes.

Q. Did you compare it with anybody?—A. I made it first in pencil and compared it with the original, and then in ink, and I compared that also.

Q. Look at this paper, which purports to be a compilation of the lands sold between May 29, 1873, and January 1, 1879, and tell me the number of acres.—A. Four thousand nine hundred and five and seventy-three-hundredths acres.

(Mr. Redington offered this paper in evidence, and it was marked Exhibit 28.)

Q. To how many persons were those lands sold?—A. Eleven.

Mr. Redington offered in evidence the deposition of Ambrose Campbell, already referred to in the testimony.

Mr. McCarter objected on account of incompetency—that such paper could not be evidence against the canal company.

Mr. Payson said that the deposition of Mr. Campbell, as offered by Mr. Redington, would be admitted by the committee; but that only such portions of it as Mr. Campbell was examined upon would be held to be competent.

(The paper was put in evidence, and was marked Exhibit 29.)

AMBROSE CAMPBELL recalled.

By Mr. REDINGTON:

Question. Look at this paper [handing one to witness], and tell me whether it is one of the assessment circulars to which your name was attached.—Answer. My name is attached to this paper.

Q. Is that one of the circulars?—A. I should say it was.

(The paper was put in evidence, and marked Exhibit 30.)

Q. Do you recollect whether, in November, 1869, the General Land Office sent to you as register at Marquette a letter stating that a diagram would be shortly prepared and forwarded to you by the General Land Office?—A. I do not recollect the letter notifying me that the diagram would be sent; but I recollect that there was a diagram sent to me.

(Mr. Redington offered in evidence the letter referred to, as follows:)

DEPARTMENT OF THE INTERIOR,
GENERAL LAND OFFICE,
November 11, 1869.

SIR: I acknowledge the receipt of your letter of the 28th ultimo by saying that the diagram requested will be prepared and forwarded at the earliest day practicable; and at the same time instructions will follow in regard to the selections remaining to be made by the Portage Lake and Lake Superior Ship Canal Company in your district.

Very respectfully,

JOSEPH S. WILSON,
Commissioner.

AMBROSE CAMPBELL, Esq.,
Register, Marquette, Mich.

Q. Have you any recollection of a letter dated December 6, 1869, sending you such a diagram?—A. I have a recollection of receiving a diagram, but not the letter. Of course there was a letter with it.

Q. Do you recollect what the diagram was?

The WITNESS. You have reference now, I suppose, to the diagram showing the limits of the Ontonagon and State line grant?

Mr. REDINGTON. Do you know what that diagram was?

The WITNESS. I recollect receiving that diagram.

Mr. REDINGTON. I now offer in evidence the letter of December 6, 1869, from the Commissioner of the General Land Office to the receiver and register, Marquette, Mich., as printed on page 23 of the Canal History.

(The letter was put in evidence, and marked Exhibit 31.)

Mr. PAYSON (to the witness). This diagram, which you say you remember receiving, is it the same diagram to which you testified the other day, a portion of which you said was colored yellow?

The WITNESS. No, sir.

Mr. DAVIS. It is an entirely different matter.

The WITNESS. This is a diagram of the railroad, and the other was a diagram showing territory which the Commissioner designed to restore.

THEODORE M. DAVIS, sworn and examined.

By Mr. REDINGTON:

Question. You are the president of the present canal company?—Answer. Yes.

Q. As such I presume you have made yourself pretty conversant with all the matters in connection with the grants made to that company and to the reservations made for its benefit, and conflicting claims, and everything of that kind?—A. Yes, sir; I know something about them.

Q. Do you know of the withdrawal of 1856 for the Ontonagon and State Line Railroad Company?—A. Yes.

Q. Do you know its limits?—A. I do, as laid down in the withdrawal.

Q. What are you looking at now [the witness having a book in his hand]?—A. At the Railroad History, pages 17 and 18.

Q. As laid down in the notice, No. 561, printed on those pages, what are the limits of that withdrawal?—A. The limits of the withdrawal are

in territory subject to disposal at the office of Duncan: "All the lands north of township 39, and west of range 19 west."

Q. Look at the map before you (Exhibit 22) and say what are the western limits of the withdrawal of 1856?—A. The western limits of the withdrawal of 1856 of lands subject to disposal at the office at Duncan started at range 19 (which is not down on the map). The western limits under the Duncan withdrawal run out to the State line between ranges 32 and 33.

Mr. PAYSON. What is meant by the Duncan withdrawal?

The WITNESS. Under the act of 1856 (the railroad act) there were withdrawn on June 13, 1856, all the lands in the lists of the Northern Peninsula which were subject to disposal at the land office at Duncan, Mich.—all the lands north of township 39, and west of range 19 The lands that were subject to disposal at the Duncan office were simply lands lying south of a line dividing towns 41 and 42, and west of range 12. Consequently I am asked where are the western limits of that withdrawal. If you follow westward a line running between towns 41 and 42 (the northern limits of the withdrawal), you will find that it runs out of Michigan at range 33.

Mr. PAYSON. That is where the east and west line touches the Wisconsin line.

The WITNESS. Yes.

By Mr. REDINGTON:

Q. With reference to the Sault Ste. Marie office, where are the western limits of this withdrawal?—A. They went as far west as range 42. range 42 was the western limit of this withdrawal.

Q. Did it take in all the lands of the Sault Ste. Marie district, to the extreme eastern limit of the withdrawal, up to and including range 42?—A. No.

Q. How far west did it extend?—A. It took all the lands in the district situated south of township 51 in range 20 to 31 inclusive; south of township 52 in ranges 32 to 34, inclusive; south of township 52 in ranges 35 and 36; south of township 54 in ranges 37 and 38; north of township 46 in ranges 39 and 40; and north of township 48 in ranges 41 and 42.

Q. Does not that west line correspond with the western red line in the map at which you are looking?—A. No; it does not. That withdrawal comes over here [indicating on the map] north of 48 in ranges 41 and 42.

Q. Is there not a withdrawal south of the line between the two townships 48 and 49?—A. No; it is north of 48.

Q. It lies entirely north of 48?—A. Yes.

Q. Then to the west of the red line, as shown on this exhibit [indicating], there is no withdrawal south of a line between townships 48 and 49?—A. There was no withdrawal under this railroad withdrawal.

Q. Was there any withdrawal for railroad purposes, that you ever knew of, which took in west of the red line and south of the line between townships 48 and 49?—A. There was a withdrawal as against the canal company. There was a prohibited district there, as against the canal company, west and south of this line.

Q. Was there ever any withdrawal for the benefit of that railroad, or of any other railroad, that extended to the westward of the red line as marked on this exhibit [indicating]?—A. I do not know.

Q. You do not pretend to say that there was?—A. I do not pretend to say anything about it.

Mr. REDINGTON. I now introduce in evidence a certified copy of the withdrawal notice, No. 561, of June 13, 1856. My purpose in doing so is to correct an error in the notice as published at pages 17 and 18 of the Railroad History. Instead of reading "South of township 46, in ranges 39 and 40, and south of township 48, in ranges 41 and 42," it should read "North of those townships."

Mr. DAVIS. That fact is conceded, and has been from the beginning, and we have treated this withdrawal heretofore as conforming to the certified copy.

(The certified copy was put in evidence, and marked Exhibit 31.)

Q. At what date did Mr. Avery cease to be agent of the canal company?—A. Mr. Avery never was an agent of our company.

Q. At what time did he cease to represent the canal company, and did Mr. Frost succeed him as agent for the selection of the canal company's lands?—A. All that I know of that is from the record; and from that it would appear that Mr. Avery, the president of the old canal company, was removed by Governor Baldwin from his position as agent of the State to select lands under the act of Congress on the 11th of September, 1872.

Q. Had he to your knowledge, up to that time, represented the canal company in all its matters out there in connection with its land grant?—A. I at that time knew nothing about the matters at the land office, nor anything with reference to them.

Q. And you do not know now anything about those matters?—A. I do not know anything about them, except from what I have heard in this case.

Q. What, in round numbers, is the value of the lands taken by the canal company along the mouth of the Menominee River, and what is their general character?—A. We have no lands along the mouth of the Menominee River.

Q. What is the value of the lands taken by the canal company south of township 41 and in that vicinity?

(Question objected to by Mr. McCarter, as the value and character of the lands were not in controversy here.)

Mr. Payson stated that that question had come up before, and that the committee had decided it to be immaterial; he could see no reason why the committee should change its opinion; he did not see how the question could be material.

Q. Look at the paper now handed you, and state whether you recognize it [handing a paper to witness]?—A. I do.

Q. Are you the same gentleman mentioned in that paper as Theodore M. Davis?—A. I am.

Mr. Redington offered the paper in evidence, stating that it was a report made from the Committee on Banking and Currency in the Forty-sixth Congress, in the investigation of the Ocean National Bank.

(Objected to by Mr. McCarter.)

Mr. REDINGTON (to the witness). The present canal company claims its title by virtue of certain judicial proceedings, does it not?—A. It claims by virtue of a sale under foreclosure of a mortgage executed on the property by the old canal company.

Q. And by virtue of certain proceedings in court?—A. By virtue of the foreclosure of mortgages, and by proceedings in the circuit court of the United States for Michigan.

Q. Was not the right of the present canal company originally based upon the result of proceedings in the settlement of the affairs of the Ocean National Bank?—A. No, sir; not in the slightest.

Q. Is not the present canal company the successor in interest of persons who purchased securities of the old canal company that were held by the Ocean National Bank?—A. No, sir.

Q. Who were the persons who purchased of you as receiver of the Ocean National Bank the securities of the canal company that were held by that bank at the time when you became receiver?—A. No person purchased the securities in the legal sense of the word.

Q. What do you mean by that?—A. I mean this, the debt due to the Ocean National Bank by the old canal company was alleged to be usurious, and an attempt was made by me to sell the bonds issued by the old canal company.

Mr. PAYSON. Evidencing this debt?

The WITNESS. Yes, held as collateral for this debt; an effort was made by me to sell the bonds at public auction, and to allow the proceeds to be subject to the plea of usury, supposing that the bonds would sell for very much less than their value. A portion of those bonds was sold at public auction under order of the circuit court of the United States, after a long and bitter litigation. These bonds were purchased by Isaac H. Knox, the receiver of the canal company, without any understanding or agreement, at a very small price, and the money was paid to me as receiver of the Ocean National Bank.

Mr. PAYSON. Purchased by Mr. Knox in his individual right?

The WITNESS. Yes; in his individual right. The money was paid to me as receiver of the Ocean National Bank, and was deposited, by order of the circuit court, in a certain trust company, and made subject to the plea of usury. As soon as that sale was made I went to the firm of Bowman, Johnson & Co., bankers in New York, and took from Mr. Johnson a written agreement, giving me the right to call upon him for the same number of bonds, and the same kind of bonds, at any time within three years, at the same price at which they were sold to Knox. He also providing in that agreement——

Mr. REDINGTON. All that is not responsive to my question. I want to know whether you did not, as receiver of the Ocean National Bank, sell or dispose of some securities of this canal company? I do not ask you how you did it, but whether you did or did not do it.

Mr. McCarter said that he could not conceive the object of the question, except in some way to impeach Mr. Davis's integrity.

Mr. Payson remarked that it was intended, he supposed, as preliminary to the introduction of the pamphlet.

By Mr. REDINGTON:

Q. Is it not a fact that you, as receiver of the Ocean National Bank, disposed of securities of the canal company which that bank held as collateral for a loan?—A. There was no sale of bonds.

Q. I did not ask about a sale of bonds. I ask you whether you, as receiver of the Ocean National Bank, disposed of bonds of the canal company held as collateral by that bank?—A. No.

Q. Did you not do it, as receiver, under order of the court?—A. I went through the form of a sale only.

Mr. PAYSON. Who was the debtor to the Ocean National Bank?

The WITNESS. The canal company.

Mr. PAYSON. And the canal company put up its own bonds?

The WITNESS. It gave its bonds as collateral security upon all the property of the company, and also gave notes.

Mr. PAYSON. The canal company, as a corporation, was a debtor to the Ocean National Bank?

The WITNESS. The canal company was a debtor on its own notes, and the Ocean National Bank also held its bonds as collateral.

Mr. PAYSON. For the same indebtedness?

The WITNESS. No; on other indebtedness.

Mr. PAYSON. What secured the canal company's indebtedness?

The WITNESS. Its own bonds.

Mr. PAYSON. Are those the bonds which Mr. Redington is inquiring about?

The WITNESS. Yes.

Mr. PAYSON. The canal company, as debtor to the Ocean National Bank, put up its own bonds as collateral for its own debt?

The WITNESS. Yes, sir.

Mr. REDINGTON. I propose to offer in evidence the report of a committee of Congress which investigated the matter of the disposal of those bonds by the witness on the stand, who was then the receiver of the Ocean National Bank.

Mr. PAYSON. For what purpose do you claim that that is competent?

Mr. REDINGTON. I claim that it is competent for the purpose of showing how it was that the bonds were disposed of, and how the present canal company came to be the successor of the old canal company. I do it with this in view: A suggestion was made to prove (from the other side) that the present owners of this canal company were the purchasers at a judicial sale of the possessions of the old corporation, which we do not admit to be a fact. It has been several times suggested in the record, and, if it were true, it would be a strong consideration with the committee against the forfeiture of the grant, if the old company had been in default.

Mr. PAYSON. If the fact is material, how could the finding of a committee of a former Congress tend to have anything to do with the findings of a committee of this Congress? This committee would have to make its own findings on facts before it. *Non constat*, but with the same facts before it, this committee might come to different conclusions from that which the other committee came to.

Mr. REDINGTON. We have had already in the case two reports from committees of Congress introduced, to which I called attention at the time; and we have had also introduced in evidence extracts from the debates of Congress as affecting a question of fact. The other side submitted them in evidence.

Mr. PAYSON. With reference to this second grant?

The WITNESS. Yes, sir.

Mr. PAYSON. The object being to show that Congress, when it made its last grant to this canal company, had actual notice of the fact that the State of Michigan had adopted certain plans and specifications for the construction of the canal. That was all.

Mr. REDINGTON. The offer was not so limited, and does not so appear on the record.

Mr. MCCARTER. We offered it in no other sense.

Mr. REDINGTON. I now propose to put in evidence the report of the Committee on Banking and Currency of the House of Representatives in the Forty-sixth Congress. That committee made an exhaustive investigation of all the affairs of the Ocean National Bank under the direction of the House of Representatives, and I propose to submit, for the information of this Congress and the committee, for what it is worth, the views of that committee on the testimony then taken.

Mr. MCCARTER. I object to it, of course.

Mr. REDINGTON. I make the following offer: I propose to submit in

evidence a report made on the affairs of the Ocean National Bank by the Committee on Banking and Currency in the Forty-sixth Congress, being H. R. Report No. 1463, and relating to the manner in which the witness on the stand, then the receiver of the Ocean National Bank, disposed of the securities of this canal company in possession of the bank as collateral—the same being the foundation of the title which the present canal company now owns.

Mr. PAYSON. Is there any statement of anything which you propose to follow it up by?

Mr. REDINGTON. Not at all.

Mr. PAYSON. Standing by itself, the committee is of the opinion that the testimony is not competent.

The WITNESS. I ask to be allowed to finish my statement.

Mr. REDINGTON. I objected that the witness's statement was not responsive to my questions, which were all preliminary.

Mr. PAYSON. Treating the questions asked as preliminary to the offer of the report, and the committee coming to the conclusion that the report itself is incompetent, the preliminary questions and answers cannot be considered as evidence in the case.

Mr. REDINGTON. But they must be left in the record.

Mr. PAYSON. Of course. And possibly, in view of it, Mr. Davis's testimony should be completed.

Mr. MONTGOMERY. Of course, until it goes in evidence, his explanation is immaterial.

Mr. MCCARTER. If you treat the questions which Mr. Davis was answering as merely preliminary, it may be all right. [To the witness.] You said that there was a withdrawal as against the canal company of certain lands?

A. Yes.

Q. Which withdrawal was referred to at the commencement of your principal examination?—A. Yes.

Q. What do you mean by that?—A. I refer to the letter on page 4 of the Canal History, from J. M. Edmunds, Commissioner, to the register and receiver, Marquette, Mich., dated July 25, 1865, in which he directs the register and receiver as follows:

> After a full examination of the proof submitted from time to time through your office in connection with the geological survey of the Upper Peninsula, and a careful record of the whole subject of agricultural scrip locations in your district, we have reached the conclusion to confirm all locations and allow existing applications of lands outside of, and a reasonable distance from, mineral formations, say from granite to conglomerate, inclusive, as shown by the geological survey of Foster and Whitney.

Q. That is what you alluded to?—A. Yes. This district south of Lake Gogeby and west of range 42 is a district from which the terms of that letter would exclude the canal company from entering lands, being the lands designated as red on the large map produced by Mr. Redington, and marked as Exhibit —.

Q. You were asked at the commencement of your examination whether you are the president of the present canal company. What is the corporate name of the present canal company?—A. The Lake Superior Ship Canal, Railway and Iron Company.

Q. What was the corporate title of its predecessor?—A. The original company was called the Portage Lake and Lake Superior Ship Canal Company, subsequently changed into the Lake Superior Ship Canal, Railroad and Iron Company.

Q. Portage Lake was left out in the title of the first company?—A. Yes; and the second company was called "Railroad Company," and we are called "Railway Company."

Q. When was the present corporation organized?—A. In May, 1877.

Q. Under the authority of what law?—A. Under the authority of a statute of Michigan.

Q. How did that company acquire its title to the lands?

(Objected to by Mr. Redington as not being cross-examination on anything brought out by the direct examination; and objection sustained.)

By Mr. REDINGTON:

Q. This letter of July 25, 1865, is the only matter to which you referred when you said there was a withdrawal operating against the canal company?—A. Yes.

Q. Tell me whether the canal company is referred to in that letter from beginning to end.—A. It is.

Q. Where?—A. The letter is written to the register and receiver in reference to the canal entries of land in that country.

Q. Tell me where the canal company is referred to in any part of the letter from the beginning to its close.

The WITNESS. Do you mean by name?

Mr. REDINGTON. Yes; by name.

A. The canal company is not named in this letter any farther than in this sentence:

You will not forget that all odd-numbered sections in your district north of town 40 N. and west of range 21 were withdrawn from market by order of May 6, 1865, which is the canal withdrawal.

Q. Then, in the same letter, which you say was a restriction on your right to locate land, your own canal reservation is mentioned?—A. It is.

Q. And directions are given to respect it?—A. Yes.

Q. Is it not a fact that this letter applies by express terms only to agricultural scrip locations?—A. No; it does not.

Q. Where else in the whole range of the letter does it refer to any other class of applications for locations?—A. All through it.

Q. Give me a few instances.—A. (Reading:)

After a full examination of the proof submitted from time to time through your office, in connection with the geological survey of the Upper Peninsula, and a careful record of the whole subject of agricultural scrip locations in your district, we have reached the conclusion to confirm all locations, and allow existing applications of lands outside of, and a reasonable distance from, mineral formations, say from granite to conglomerate, inclusive, as shown by the geological survey of Foster and Whitney. The other formations, as shown by said map, are not considered mineral bearing, and locations in connection with them will be approved, if free from other objections. We presume you have on hand a copy of the above map.

Q. Point as you go along where the canal company is referred to.—A. Every line shows that it refers to the canal company.

Q. I want the words.—A. I cannot give the words; but, reading the entire letter, you will see that it refers to the canal company.

Q. Can you point out a single word, from the beginning to the end of that letter, which even inferentially mentions the canal company?—A. I think every word of it inferentially mentions the canal company.

Q. Then you decline to point anything out, except to say that the whole letter refers to the canal company?—A. I do.

Q. Have you got a copy of the Foster and Whitney map?—A. I have.

Q. Have you it now in your possession?—A. I have.

Q. Will you produce it?—A. I will. Here [producing it, and opening it] is Foster's and Whitney's geological map of the Upper Peninsula.

Q. State where on that map Foster and Whitney designate granite.—A. Here in pink [indicating].

Q. Where is the conglomerate?—A. Here near Portage Lake, at the end of Keweenaw Point.

Q. What color is it marked in?—A. Orange.

Q. Where is it?—A. At the north side of Keweenaw Point.

Q. Where does it commence up here on Keweenaw Point [indicating]?—A. I cannot tell you the township and range; apparently it commences about Eagle Harbor. [Correcting himself.] It commences down here by Portage Lake [indicating], and runs to the end of Keweenaw Point; to the north side of Keweenaw Point.

Q. How many townships of land does the tract marked as granite take in north of the Wisconsin State line?—A. I cannot answer from this map.

Q. I ask you from that map how many townships, in round numbers, the granite takes in north of the Wisconsin State line?—A. From two to two and a quarter or two and a half townships north and south.

Q. Where did you find two or two and a half townships?—A. Here [indicating on the map].

Q. Was that Foster and Whitney map made prior to 1865?—A. Yes.

Q. A long while before that?—A. Yes; in 1849, I think.

Q. Long prior to the withdrawal for the canal company?—A. Long prior to that.

Q. And the withdrawal for the canal company included all the lands down here marked as granite [indicating on the map]?—A. Yes.

Mr. McCarter. When was the first withdrawal for the canal company?

The Witness. On May 26, 1865. This letter is dated July 25, 1865. It was written exactly two months after the withdrawal by the canal company.

Mr. Redington. I now offer in evidence the map of the geological survey of the Northern Peninsula of Michigan, made under the direction of the State of Michigan, in accordance with the statute of her legislature, by Professor Pumpelly, showing the copper-bearing rock and the Laurentian rocks of the Upper Peninsula.

Mr McCarter inquired the object of offering the map in evidence.

Mr. Redington. It must be obvious that some attempt will be made to defend the locations of lands away from the canal, on the ground that they were not subject to selection on account of their mineral character, as shown by the Foster and Whitney map. Bearing on that point, I desire to have here in evidence the map prepared from the geological survey of their own witness, Professor Pumpelly, who testified to the lack of granite and conglomerate. Here is his own map, made from surveys and public records of the State of Michigan.

Mr. McCarter. The committee will recollect that Professor Pumpelly did not undertake to say that the stone which he called granite was not the stone which Foster and Whitney called granite.

Mr. Redington. I should certainly have cross-examined Professor Pumpelly as to this map had he been called on your side in the regular order; but, through courtesy on our part, he was called out of order, when we had none of these maps here.

Mr. McCarter. Then he should have been kept here.

Mr. REDINGTON. If this map cannot go into the evidence as his work he must come back, that is all.

Mr. PAYSON. It will be recollected that the only testimony where reference was made to the geological features of that country was in the documents read here, and in connection with Foster and Whitney's map; and when Professor Pumpelly was on the stand he did not agree with that map. My recollection is that, in answer to Mr. McCarter, he said that what Foster and Whitney called granite he did not call granite at all.

Mr. MCCARTER (to Mr. Redington). What is the point of view in which you offer this map?

Mr. REDINGTON. I propose to show affirmatively the position of mineral lands in that country.

Mr. MCCARTER. I do not see how it can bear on this question.

Mr. REDINGTON. It does bear on this question. The first and second grants directed the company to take lands that were not designated as mineral lands.

Mr. MCCARTER. Exactly—not designated as mineral up to the passage of the act.

Mr. PAYSON. Designated as mineral when?

Mr. MCCARTER. That is the whole question.

Mr. REDINGTON. The most remarkable thing that I have seen in court or out of court is the attempt of this canal company to avoid everything that can possibly show the illegality of this transaction. The other side produced here a mineralogist of known ability, of national reputation. It put him on the stand out of order; and, as we desired to accommodate him, he was examined, and went away. I now produce a mature piece of his work showing the mineral formation of the Northern Peninsula of Michigan, and the other side objects to it.

Mr. Payson ruled that the map was not in evidence.

Mr. REDINGTON. Then I ask a telegraphic subpœna for Professor Pumpelly. I want to cross-examine him on that map.

Mr. Payson asked Mr. Redington to state what he expected to show by Professor Pumpelly as to the map, and he said that he should refuse to issue a subpœna for Professor Pumpelly unless such statement was made. If counsel stated that in good faith, and the other side would not admit it, and the committee should think it material, a subpœna would be issued for Professor Pumpelly.

Mr. Shaw asked Mr. Redington whether he proposed to make Professor Pumpelly his own witness?

Mr. Redington replied that he did not, but he wished to cross-examine him.

Mr. Van Eaton remarked that he did not know of any rule of law under which a witness who had been discharged could be brought back to be cross-examined.

Mr. Redington then made a formal offer of proof as follows: I offer to prove by Professor Pumpelly that the map which I have just offered in evidence is a map accompanying his geological survey of the Northern Peninsula of Michigan, and that it correctly represents the various geological formations designated thereon. I further propose to prove by Professor Pumpelly the particular location and extent of the territory known as the copper range; and I propose to identify that territory according to the designations made on his map. I propose to follow that up by showing to the committee that the location of lands made under the act of 1865 was made with express reference to including the

entire copper belt of the Northern Peninsula of Michigan, instead of taking in the lands lying nearer the canal than those actually selected.

This offer having been read by the stenographer, Mr. Davis said that they would admit all of it down to the beginning of the last sentence.

Mr. MONTGOMERY. Now, we produce the map, and say that you have not only selected lands which were not nearest the canal, but that they were mineral lands, and that you knew they were mineral lands.

Mr. Payson remarked that, under the act of Congress, the lands excepted were lands "designated as mineral lands."

Mr. McCARTER. If the other side will show to the committee that the canal company was prohibited from taking copper lands "designated as mineral" at the time of the act of Congress, and that we did take such lands, the testimony will be competent and proper.

Mr. Redington asked Mr. McCarter what his objection was to the introduction of the map, or what was shown on the map which the other side did not want to be shown.

Mr. McCarter said that the objection was that even if it were admitted that Professor Pumpelly made the map, and that it was properly made, it was still immaterial.

Mr. REDINGTON. Why is it immaterial?

Mr. McCARTER. The committee has shown how it is immaterial, and it is not necessary for me to go over that ground.

Mr. REDINGTON. You have already admitted the correctness of that map, and that admission may go into the evidence.

Mr. McCARTER. We did not admit the correctness of the map; but we admitted that if Professor Pumpelly were here he would prove the correctness of the map.

Mr. REDINGTON. What do I understand from you? Do I understand that this map may go into the evidence for what it is worth, so far as its location of the copper range is concerned?

Mr. McCARTER. No; I have not said that.

Mr. REDINGTON. So far as it shows the copper range?

Mr. McCARTER. So far as it shows anything. I object to its introduction, because what it tends to prove is wholly irrelevant. The committee refused to send for Professor Pumpellyr unless the counsel stated what he expected the professor to prove. Now, you say that you propose to prove by Professor Pumpelly that a map attached to his geological survey correctly delineates the geological formations of the Upper Peninsula at that time. We say we admit that if Professor Pumpelly were here he would testify to that. That authenticates the map and covers that objection; but after you have got the map authenticated, and if Professor Pumpelly were here to swear to it, my objection would still remain as to what does it prove. It simply tends to prove that the land is of a certain value and character, and I understand the committee to decide that that proof is immaterial, and therefore the map is immaterial. The proffer is made for the purpose of showing that the company neglected to select some 75,000 or 100,000 acres of public lands nearest the canal, and selected their lands in lieu thereof situated farthest from the canal.

The offer of evidence was overruled.

Mr. REDINGTON. I now move to strike out the testimony of Mr. Davis in reference to the Foster and Whitney map.

Mr. Payson said that he thought that that was a matter which should be in the record. The Foster and Whitney map was treated as a correct map by the Interior Department in some of the correspondence in

reference to this land, and it would be a perfectly proper thing, in connection with that correspondence, to put it in evidence.

Mr. REDINGTON. I move to strike out as immaterial all reference by the witness Davis to the Foster and Whitney map, and the geological formation shown thereon.

Mr. McCarter objected to the motion, the ground of his objection being that the reference to the Foster and Whitney map had first made its appearance in reply to a question of his own on a proper cross-examination. Then, on a redirect examination on the same topic, the map was called for by counsel on the other side. Mr. Davis was examined, and when he was asked a question which required him to refer to another map, he was required to answer it from this map. Mr. Davis did answer it from this map, and showed the location of the land in the Foster and Whitney map, and also referred to the letter of the Commissioner. It was claimed that that letter regulated, or should have regulated, the action of the parties in locating the lands. Therefore the Foster and Whitney map (the letter itself being in evidence) ought to be competent evidence on his side, because it showed what was referred to by the instructions of the Commissioner of the General Land Office to the register and receiver at Marquette in reference to what lands were open to location and what were not. It was therefore perfectly competent and pertinent—much more so when it came out on the cross-examination of his witness, and when it was called for by the other side. It was material as designed to show the territorial circumscription of the right to locate, regulated by the indications of the Foster and Whitney map. That territorial restriction being in the case, it was necessary (in order to apply the evidence to the subject-matter) to put the Foster and Whitney map in evidence. It was competent in any point of view.

Mr. Redington contended that neither the Foster and Whitney map nor the letter of the Commissioner of the General Land Office (which it was claimed referred to it) had been introduced in evidence. The witness, Davis, had stated on his examination, with reference to the map, that certain colors upon it showed certain mineral formations. The map itself had not been proved to be a public record. It had not been verified. Its authenticity had not been established in any way; but it had simply been produced from the custody of Mr. Davis. The committee had just ruled with reference to the geological map of Professor Pumpelly that it was not competent to be put in evidence, and he asked that the same rule be applied to the Foster and Whitney map. In order to effect that, he moved to strike from the record all that was said by the witness Davis in reference to the geological formations shown thereon.

Mr. Van Eaton said said that, in his view, they were not parallel cases. If the Foster and Whitney map had been offered by Mr. McCarter it would have been a parallel case; but that map only came in on the redirect examination.

Mr. REDINGTON. The Foster and Whitney map has not been produced by anybody.

Mr. VAN EATON. The reference to it was called out by yourself.

Mr. REDINGTON. And the map itself has never been offered in evidence by anybody.

Mr. VAN EATON. Then there is no reason in moving to strike it out.

Mr. REDINGTON. I am not moving to strike out the map, but to strike out the reference to the map contained in the testimony of the witness, Davis.

Mr. VAN EATON. My opinion is, that as you drew out that reference yourself, the motion cannot be sustained.

Messrs. Payson and Shaw coincided in the view expressed by Mr. Van Eaton.

Mr. REDINGTON. May I ask the committee a question? Are we to understand that the Foster and Whitney map, or the reference to it, contained in the testimony of Mr. Davis, is to be ruled as competent and admissible simply because it was referred to in answer to a question put by me to Mr. Davis; and that, at the same time the map of Professor Pumpelly is to be excluded when I offer it as a whole in the testimony-in-chief?

Mr. PAYSON. Speaking for myself, you are not to understand that at all.

Mr. VAN EATON. There is no connection between the two cases whatever.

Mr. REDINGTON. I would like to have the idea of the committee, for that is the effect of it, as I understand it.

Mr. VAN EATON. The distinction is that you offered the Pumpelly map, and the offer was immediately objected to. The objection was sustained, because there was nothing to authenticate that map. In the other case you yourself called upon your own witness to produce the other map, and he did produce it, and the reference to it was made in answer to your own question, and without objection. If there be any similarity in the two cases, I must confess that I do not see it.

Mr. REDINGTON. I wish to inquire whether the committee considers the Foster and Whitney map as in evidence?

Mr. PAYSON. Whatever the record shows about it.

Mr. VAN EATON. Nobody has offered it as an exhibit that I know of.

Mr. REDINGTON. I now desire to call the attention of the committee, and to spread upon the record certain official records and documents, of which the committee will take judicial notice. It relates to political events occurring about the time of the appointment of Ambrose Campbell to the office of receiver. Unless there be objection I will file it.

Mr. Redington thereupon read a portion of the following paper:

March 2, 1867. (14 Stat., 428.) Congress passed *over Johnson's veto* the act dividing the seceding States into military districts.

July 19, 1867. (15 Stat., p. 14.) Congress passe d*over his veto* an act making the department military commanders subject only to the General of the Army.

August 12, 1867. The President notified Mr. Stanton of his suspension as Secretary of War; and Stanton turned his office over to Grant.

August 20, 1867. President's proclamation of peace, &c.

September 7, 1867. (15 Stat., 699.) General amnesty proclamation.

February 21, 1868. Stanton (having been given possession by Grant upon refusal of Senate to consent to Stanton's removal) was again notified of his removal and of appointment of General Lorenzo Thomas, Secretary *ad interim*.

February 24, 1868. Resolutions of impeachment passed House of Representatives.

March 3, 1868. Articles of impeachment agreed to.

March 23, 1868. Impeachment trial commenced.

(Mr. McCarter objected to the paper.)

Mr. PAYSON. The objection must be sustained; but the paper may be filed, and the full committee will determine as to it.

Mr. REDINGTON. Does the committee rule that I have not a right to call attention to things of which the committee should take judicial notice?

Mr. PAYSON. As a matter of proof, I do not think that the paper cuts any figure, but it may be filed, and the full committee will decide about it. Of course if it is competent to file the paper, it would be competent to call witnesses to prove the facts which it contains.

Mr. REDINGTON. I suppose it is competent for me to call the attention of the committee to things of which it will take judicial notice? I now want to introduce this map in evidence. It is the large map published by the canal company showing its various selections of land.

Mr. DAVIS. Forty thousand acres of the land shown on this map were purchased by the canal company. I deny the correctness of the map as showing the two land grants only.

Mr. REDINGTON. Do you object to the map?

Mr. DAVIS. I do.

Mr. REDINGTON. I now offer in evidence the letter found on page 20 of the Canal History, being the letter of August 14, 1868, from the Commissioner of the General Land Office to the register and receiver, Marquette, Mich.

(The letter was put in evidence, and is marked Exhibit 34.)

Mr. REDINGTON. I now offer in evidence, from pages 20 and 21 of the Canal History, the letter of December 19, 1868, from the Commissioner of the General Land Office to the register and receiver, Marquette, Mich.

(The letter was put in evidence, and marked Exhibit 35.)

Mr. REDINGTON. I now offer in evidence, from page 21 of the Canal History, letter dated July 2, 1869, from the Commissioner of the General Land Office to the register and receiver, Marquette, Mich.

(The letter was put in evidence and marked Exhibit 36.)

The letter on page 23, of November 11, 1869, was also put in evidence, marked Exhibit 37.)

Mr. REDINGTON. I now offer in evidence, from page 23 of the Canal History, the letter of December 6, 1869, from the Commissioner of the General Land Office to the register and receiver, Marquette, Mich.

(The letter was put in evidence and marked Exhibit 38.)

Mr. REDINGTON. I now offer in evidence, from page 26 of the Canal History, letter of June 10, 1871, from the Commissioner of the General Land Office, to the register and receiver, Marquette, Mich.

(The letter was put in evidence, marked Exhibit 39.)

Mr. REDINGTON. I now offer in evidence, from page 31 of the Canal History, the letter of May 29, 1873, from the Commissioner of the General Land Office to the register and receiver, Marquette, Mich., reserving the right to file a certified copy, providing the descriptions of the land shall be found to be incorrect.

(The letter was put in evidence, marked Exhibit 40.)

Mr. REDINGTON. I now offer in evidence, from page 52 of the Canal History, letter of February 11, 1878, from the Commissioner of the General Land Office to the agent of the Portage Lake and Lake Superior Ship Canal Company.

(The letter was put in evidence and marked Exhibit 41.)

Mr. REDINGTON. In that connection I ask Mr. Davis whether he has got the additional list of canal selections which he agreed was to be put into the record in order to complete the Supreme Court record?

Mr. DAVIS. Yes; I produce the list [producing a paper].

Mr. REDINGTON. Does this complete the record of all the lands selected by, and listed to, the company in addition to those contained in the Supreme Court record?

Mr. DAVIS. It does—and the duplicate list (No. 7) of the Supreme Court record.

(The paper was put in evidence, marked Exhibit 42.)

Mr. REDINGTON. I now offer in evidence, from pages 55, 56, and 57, of the Canal History, letter of March 7, 1879, from the Commissioner of

the General Land Office to register and receiver, Marquette, Mich., it being agreed that the date of July 1, 1864, in the second paragraph, should be July 1, 1874.

(The letter was put in evidence, marked Exhibit 43.)

Mr. REDINGTON. I now offer in evidence, from page 71 of the Canal History, letter of June 9, 1880, from the Acting Commissioner of the General Land Office to the register and receiver, Marquette, Mich.

(The paper was put in evidence, and marked Exhibit 44.)

Mr. REDINGTON. I now offer in evidence, from page 3 of the Canal History, letter of May 26, 1865, from the Commissioner of the General Land Office to the register and receiver, Marquette, Mich.

(The letter was put in evidence, marked Exhibit 45.)

Mr. REDINGTON. I now offer in evidence, from page 5 of the Canal History, letter of June 14, 1866, from the Commissioner of the General Land Office, to the register and receiver, Marquette, Mich.

(The letter was put in evidence, and marked Exhibit 46.)

Mr. REDINGTON. I now offer in evidence, from pages 6 and 7 of the Canal History, letter of July 31, 1866, from the Commissioner of the General Land Office to the Secretary of the Interior, it being understood that the date given as July 3, 1866, in the first and last paragraphs should be July 31, 1866.

(The letter was put in evidence, marked Exhibit 47.)

Mr. REDINGTON. I now offer in evidence, from page 8 of the Canal History, letter dated August 30, 1866, from the Acting Commissioner of the General Land Office to the register and receiver, Marquette, Mich.

(The letter was put in evidence, marked Exhibit 48.)

Mr. REDINGTON. I offer in evidence, from pages 1 and 2 of the Canal History, letter dated April 4, 1865, from the Acting Commissioner of the General Land Office, to the register and receiver, Marquette, Mich.

(The letter was put in evidence, marked Exhibit 49.)

Mr. REDINGTON. I now offer in evidence, from pages 2 and 3 of the Canal History, letter of May 15, 1865, from the Commissioner of the General Land Office to the register and receiver, Marquette, Mich.

(The letter was put in evidence, marked Exhibit 50.)

Mr. REDINGTON. I now offer in evidence, from page 34 of the Railroad History, the letter of April 20, 1860, being notice No. 658, of restoration of lands to market outside the 6-mile limits.

(The letter was put in evidence, marked Exhibit 51.)

Mr. DAVIS (to Mr. Redington). Does that close your case?

Mr. REDINGTON. It closes our case except as to the offers of evidence that were rejected, in regard to which, of course, we desire to take the judgment of the full committee. I also desire to reserve the right to introduce certain certified copies from the files in order. But I do not desire to introduce them at the present time, nor at all until I have an opportunity to see what witnesses, if any, are presented on the other side, as I may desire to use them in the cross-examination of witnesses. If such witnesses should not be called, I will then decide as to whether I will introduce them.

Mr. MCCARTER. You had better decide whether you will offer them now.

Mr. REDINGTON. I give notice that if witnesses are called by you, I will cross-examine them from those records; and, if not, I shall ask the committee to take them as records from the Interior Department.

Mr. MCCARTER. Do you close your case now?

Mr. REDINGTON. I have made a statement that in case I desire to use

these papers in cross-examination of witnesses, I shall do it; and, in case you do not produce the witnesses, I shall ask the committee to take the papers as part of the case, as certified copies from the Interior Department.

Mr. McCARTER. I think we should have your full case now.

Mr. PAYSON. If the papers are used in evidence, I think notice must be given to the other side in order to enable the other side to make such preparation as it may deem fit with reference to the matter.

Mr. DAVIS. I offer in evidence the certified copy of the letter and indorsements of August 16, 1872.

Mr. REDINGTON. I object. I have no objection to the body of the letter being put in evidence, but I object to the indorsements put upon it, after the name Ambrose Campbell.

(The letter was put in evidence, marked Exhibit A A, being admitted under objection.)

Mr. REDINGTON. I give notice that the production of that paper, with the indorsement thereon, will necessitate, on rebuttal, a showing that the indorsement in question does not correctly represent the fact that the letter of May 29, 1873, was an answer to Mr. Campbell's letter.

Mr. McCARTER. We now object to any reservation, on the part of the movers of this investigation, of a right to put in any evidence, except it shall be rendered necessary as a rebuttal to ours. No part of this case ought to be reserved.

Mr. PAYSON. Of course, it goes without saying that every part of the case in chief should be put in before you close. If anything else is rendered necessary by the cross-examination of Mr. Davis, that will be another thing. [To Mr. Redington.] That ends the case on your side, does it?

Mr. REDINGTON. Yes; with the reservation I have mentioned.

Adjourned until to-morrow.

WASHINGTON, D. C., *April* 22, 1884.

Mr. Payson stated that the matter of the proposed admission of the map of Professor Pumpelly had been submitted to the full committee this morning, and the chairman of the committee (Mr. Cobb) had read the letter addressed to him by Mr. Redington in regard to the matter, and that after considering it, the committee had come to the opinion, unanimously, that the proof should not be admitted, and had also decided, unanimously, that the testimony of Mr. Davis as to the Foster and Whitney map should not be excluded. The committee had further decided, without dissent, that the question of the value of the lands selected by the canal company was utterly immaterial, and that no evidence should be heard on that question. The committee had also decided that when the subcommittee was unanimous in any of its rulings the full committee did not care to be troubled with further appeals.

THOMAS R. BENTON recalled.

By Mr. REDINGTON:

Question. I understand that you have recently made a diligent search through the files of the General Land Office in order to be clearly advised as to the condition of the lands in the grants made by the Government in the Northern Peninsula of Michigan?—Answer. Under the direction of the chief of the division I have made a search of the rec-

ords to ascertain, as far as possible, the condition of the Portage Lake and Lake Superior Ship Canal lands and their connection with railroad lands.

Q. Tell the committee whether you have found anything on the files of the Department in any way connected with or applying to the letter of July 25, 1865, in reference to the canal selections [reading a part of that letter on page 4 of the Canal History referring to the Foster and Whitney map].—A. I have seen the record of that letter in the Department, and while it evidently refers to the withdrawal of the ship canal, I did not understand——

(Mr. Davis objected to the witness stating his understanding.)

The WITNESS. I fail to find anything in the Department which connected that letter or the instructions contained in it directly with the Portage Lake Ship Canal as to the admission of its selections.

Q. Did you find anything on the files of the Department applying the principle announced in that letter as applicable to agricultural college scrip to the canal selections?—A. I failed to find any such evidence of it.

Q. Have you found anything on the files of the Department limiting or restricting the canal company in its selection of lands to such tracts as lay between the granite and conglomerate, according to the Foster and Whitney map?

(Objected to by Mr. Davis, and objection overruled.)

A. No, sir; I have not.

By Mr. DAVIS:

Q. You found in the Department this letter which appears on page 4 of the Canal History?—A. Yes; I saw that letter in the record.

Q. In what record is it found?—A. In volume 78 of the registers and receivers' record.

Q. In the records of the correspondence of the General Land Office with registers and receivers about these matters?—A. About general matters.

Q. In that same letter did you find this paragraph:

> You will not forget that all odd-numbered sections in your district north of town. 40 N., and west of range 21, were withdrawn from market by order of May 26, 1865.

A. That appears to be an extract from the letter, but I would not wish to say that it was correct without comparing it.

Q. This same letter speaks of a sectional map of Keweenaw Point here, township No. 52 N., range 36 W., in a northeasterly direction to Lake Superior. Do you know where that sectional map is?—A. I know that I made search for it, and failed to find it.

Q. Is there not a map lying about your office without being filed with any particular papers that answers that description?—A. There is on my desk a map of Keweenaw Point, but there is nothing to identify it. I did not find it with the Portage Lake Canal papers, but on the desk of Mr. Bell, who formerly had charge of Michigan matters in the division. It is a map of Keweenaw Point, but there is nothing to identify it as to when or how it was received in the office.

Q. Can you produce that map?—A. I can.

Q. Will you produce it?—A. I will.

Q. Please do so, and bring it here to-day.—A. I will.

Q. This letter also refers to a letter from the register and receiver, dated 4th of April, 1865. Did you find that letter?—A. I searched the register of letters received, and I failed to find any letter of that date transmitting a map.

Q. You could not find the letter?—A. I could not, and I made search for it.

Q. This letter which you are testifying about on the fourth page of the Canal History also says:

After a full examination of the proof submitted, from time to time, through your office, in connection with the geological survey of the Upper Peninsula.

Have you ever examined to see what those proofs were?—A. No; I have not, and there is no way in which I could find them.

Q. You never made an examination for them?—A. I examined this morning the register of letters received from the 1st of March to the 25th of July, 1865, and I found nothing within those dates which would apparently answer that description.

Q. Would the proof submitted from time to time through your office, in connection with the geological survey of the peninsula, be filed with the letters?—A. They might not be filed with the letters, but they would be received by letter, and the letter would be registered.

Q. What is the general register that you speak of?—A. It is a register kept in the office of all letters received, giving the date of the letter, the date of the receipt and the name of the party writing it, and also to what division the letter was received.

Q. Then it is an index of letters received?—A. Yes.

Q. Where would proof submitted about geological surveys be filed?—A. I cannot say as to that.

Q. You have not investigated that matter?—A. I have investigated to this extent, to see if I could connect it with the Portage Lake Ship Canal selections, or with instructions relating to them, and I failed to do it.

Q. You have not found anything of those proofs referred to in this letter?—A. No, sir; I have not.

Q. Do you know whether agricultural scrip could have been located on mineral lands in 1865?—A. I do not know positively. I do not think it could.

Q. Do you know it or do you not know it?

(Objected to by Mr. Redington.)

Mr. PAYSON. The law will fix it.

The WITNESS. I am not connected with the mineral division of the Land Office.

Q. Then you do not know about it?—A. No; I cannot say that I do. I wish to correct an answer which I have just made. You asked me if agricultural college scrip could be locacted on mineral lands. Under the act of 1862 for the establishment of colleges for agriculture and the mechanic arts, agricultural college scrip can be located on lands subject to private entry; and mineral lands are not subject to private entry; and therefore agricultural college scrip cannot be located on mineral lands.

Q. Was that so in 1865?—A. It was.

Mr. McCARTER. I now offer in evidence the record of the sale of the canal and lands of the old company under foreclosure, for the purpose of showing that the title of the old company and all its property passed out of that company and went to another company.

(Mr. Redington objected on the ground of the evidence being immaterial and irrelevant.)

Mr. Payson stated that in regard to forfeiture the committee had to consider two questions. First, the question of power, and second, the question of policy; and that, while the right of forfeiture had been con-

ceded to exist and while the right to exercise it was unquestionable, still the question of policy had always come in as to whether or not, if the property had passed into the hands of third parties, the equity of those parties ought to be considered. In that view of the case he thought that perhaps the testimony offered might be competent.

Mr. Redington said that that was exactly his view, and that it was with that idea in view that he had offered yesterday the report made in the Forty-sixth Congress, which had been excluded by the committee. He submitted with great deference that if one was competent, so was the other.

Mr. McCarter stated that the report offered by Mr. Redington had been excluded not because it did not bear on that question, but because it was no proof at all. It was a mere statement which was not in any way competent to affect the decision in this case. It was to the character of the proof that he objected, not to the character of the issue.

Mr. McCarter thereupon put in evidence a certified copy of decree and master's report of sale, stating that it was the record of the foreclosure and purchase, a report of the master, and confirmation of the same by the court.

The paper was marked Exhibit B B.

Mr. McCarter also put in evidence a certified copy of the master's report of sale, order of confirmation, and mandate of the Supreme Court of the United States, including the decree of the circuit court.

The paper was marked Exhibit C C.

THEODORE M. DAVIS recalled.

By Mr. MCCARTER:

Question. You have been president of the present canal company since its organization?—Answer. I have.

Q. You are familiar with the records just offered in evidence?—A. I am.

Q. Without stating the contents of any paper, give a simple statement of the history of the title of property thereby conveyed, down to the present ship canal company.

Mr. Redington objected, saying that the paper showed it if it was shown at all.

Mr. Payson said there was no objection to the witness showing how the canal company assumed to claim the property. Of course, it did not prove its claim; but proof as to how the company assumed to claim the property was perhaps not incompetent.

Mr. MCCARTER. That is all that I propose to show.

Mr. REDINGTON. I object to any evidence of a link in the chain of title outside of the record evidence.

Mr. McCarter said that he did not think this evidence would show title at all but simply the character of the claim. It was a mere statement of the facts in the chain showing the title of the canal company.

Mr. Redington objected to the proof of the chain of title, as being utterly incompetent and inadmissible. If the title of the company was in any way material it must be produced. What this canal company claimed in respect to title could under no circumstances have any weight with Congress in the disposition of any of the questions involved. If the claim of title was well founded it should be proved, and if it was not well founded it should not be taken into consideration.

Mr. Payson said that he thought it not improper for Mr. Davis to state the facts as to the canal company's claim to title. Of course it would not prove its title to that extent.

The WITNESS. The canal company claims title under a deed executed by Mann and Wilson, trustees, who bought this property at the foreclosure sale.

(Mr. Redington objected to the answer, and asked that the witness be restricted in his answers.)

The WITNESS. The canal company claims title from Mann and Wilson, trustees, the purchasers under these foreclosure proceedings which you have offered in evidence.

Q. About when did the canal company acquire its claim of title to the land?—A. In May, 1877.

Q. Do you know whether any persons who were members of, or interested in, the Portage Lake and Lake Superior Ship Canal Company, or the Lake Superior Ship Canal, Railroad and Iron Company (by which names the old corporation was designated), other than its creditors, are now interested in, or connected with, the present corporation?—A. I do know it.

Q. What is the fact about it?—A. No person interested in the old company, except as a creditor, has any interest, or has ever had any interest in the present corporation.

Q. When you say except as creditors, to what class of creditors do you refer?—A. To bondholders and receiver's-certificate holders foreclosed under the proceedings mentioned.

Mr. REDINGTON. The entire line of examination is objectionable. This must be proven by the books of the company, and I move that the last three questions and answers be struck from the record.

(The motion was overruled.)

Q. Has the present company made sales of portions of this land to individuals?—A. It has.

Q. Has it disposed of a portion of those lands otherwise than by sale—I mean by lease, &c.?

(Objected to by Mr. Redington.)

Mr. Payson said that the fact of the disposal of the lands or the parting of ownership in them might be shown by parol evidence.

Q. Do you recollect how many conveyances of land have been executed by the company?—A. I do not know the number. There have been a great many deeds, contracts, and leases executed. I know the number of acres.

Q. What is the number of acres?—A. Two thousand six hundred and ninety-six acres have been leased for twenty years to various corporations for mining purposes; for the purpose of mining iron ore.

Mr. PAYSON. The ruling of the committee does not go so far as to allow testimony as to the purposes for which the lands have been disposed of.

Q. Can you tell the number of acres sold?—A. There have been leased for twenty years 2,696 acres. There have been sold 19,946 acres. The timber has been sold from 67,195 acres.

Q. Do you know of any other sales besides those you have mentioned, such as village lots?—A. Yes; there have been village lots sold for two villages.

Q. What are their names?

The WITNESS. One is called Frederick and the other Theodore.

By Mr. REDINGTON:

Q. What persons are now interested in the canal company?

The WITNESS. Do you want the names of the stockholders?

Mr. REDINGTON. Yes.

A. The heirs of James C. Ayer, Frederick Ayer, A. P. Bonney, F. F. Thompson, Gordon Norrie, Julian Norrie, D. C. Seller, Mrs. Moke, S. S. Sands & Co., Elizabeth Amar, a man named Park, the heirs of John A. Dix, John Taylor Johnston, E. S. Johnson, the heirs of Charles L. Frost, Theodore M. Davis, James B. Edmonds (I do not mean the Commissioner of the Land Office but the Commissioner of the District of Columbia), Nathaniel Wilson, Mrs. Annie Wilson. Those are all that I remember.

Q. When did Mr. J. B. Edmonds acquire any interest in the company?—A. He bought the receiver's certificates before the foreclosure.

Q. When was that?—A. That was before 1877, and he got his stock in payment for the receiver's certificates.

Q. Can you give me the date any nearer than that?—A. It was two or three years before 1877.

Q. Was it before or after October, 1878?—A. I cannot answer from memory. I do not recollect whether he bought the first issue or the second issue certificates, and I do not recollect when they were issued; but I know it was before 1877, and I think two or three years before.

Q. Can you tell from an examination of your books when Mr. Edmonds first acquired an interest in the canal company?—A. No; the books of the canal company would not show it.

Q. Are there any books which would show it?—A. No; I do not know any books that would show it.

Q. You say that Mr. Edmonds bought receiver's certificates?—A. He did.

Q. Is there any record of the receiver's transactions that will show it?—A. I think not. The receiver's report in the court of Michigan I think will only show the certificates sold, but I do not think it will show to whom they were sold.

Q. How much interest has Mr. Edmonds in the company?—A. I think 260 shares.

Q. What is the par value of the stock?—A. One hundred dollars a share.

Q. And that is as near as you can come to the date when Mr. Edmonds acquired that interest?—A. It is.

Q. Is that interest shown on the books of your company?—A. The number of shares of stock that he owns appears on the books of our company.

Q. Is the date of the acquisition of that stock shown?—A. The date of its acquisition is shown.

Q. What is that date?—A. Mr. Edmonds was one of the original stockowners; consequently the date appears about May, 1877, I think, although I am not certain that the stock was issued immediately after the company was organized; I think there was some delay in issuing the stock. Mr. Edmonds is one of the original stockholders.

Q. How many acres do you say have been sold by the canal company?—A. Nineteen thousand four hundred and forty-six acres of land have been sold.

Q. These have been conveyed by deed?—A. Yes.

Q. Can you give me the location of those lands?—A. No, except in a general way; I can tell you whether they were in the first or in the second grant.

Q. Were they in the first grant or in the second grant?—A. They were in the second grant.

Q. Were all of them in the second grant?—A. They were all, I think, in the second grant. I will qualify that answer by saying that there may

be a small portion of those lands that were within the first grant, but, if so, they are lands lying up on Keweenaw Point.

Q. The 2,690 acres that were leased during a term—are they a part of the first grant or of the second grant?—A. Of the second grant.

Q. The 67,195 acres from which timber was cut—were they in the first grant or in the second grant?—A. I did not say that the timber was cut. I said that 67,195 acres of timber were sold.

Q. Where are they situated?—A. In the second grant.

Q. All of them in the second grant?—A. Nearly all, if not quite. If any of them are in the first grant they are up in the Keweenaw Point district.

Q. Where are those two villages situated?—A. They are within the second grant of lands.

Q. Whereabouts in the second grant?—A. Frederick is in township 39, 29. It is on the branch of the Great Northwestern Railroad, on the Menominee range.

Mr. PAYSON. About how many miles from any particular point?

The WITNESS. It is about 50 miles from Escanaba.

By Mr. REDINGTON:

Q. Where is Theodore?—A. Theodore is in township 42, 18 on the Felch range, and on the Felch Mountain branch of the Chicago and Northwestern Railroad. That is about the same distance from Escanaba.

Q. How far from each other are these villages?—A. In a straight line north about 18 miles, and by railroad about 40 miles.

Mr. PAYSON. You stated something about some of the lands marked in the large map having been purchased by the canal company. What did you mean by that?

The WITNESS. The canal company bought 40,000 acres of even sections on Keweenaw Point. They are marked red on the map introduced yesterday by Mr. Redington (the large map produced Mr. Sibbald). I produce now a map of the canal company with those lands indicated by a purple mark.

(The map was offered in evidence, and marked Exhibit DD.)

By Mr. REDINGTON:

Q. From whom did the canal company buy these lands?—A. It bought them on the foreclosure of sale of a mortgage executed upon them.

Q. Executed by whom?—A. Executed by the Lake Superior Ship Canal, Railroad and Iron Company.

Q. How did that company acquire title?—A. It bought the lands from Mr. Anthony, the witness who was on the stand on your side.

MICHAEL V. MULLALY recalled.

By Mr. DAVIS:

Question. Referring to the lands marked red on the map, which Mr. Sibbald produced the other day (Exhibit ——), lying south and east of Lake Gogebic, can you tell the committee whether these lands have now been entered?—Answer. Yes, sir; nearly all of them.

Q. Can you tell the committee whether there are any lands now in the Upper Peninsula of Michigan, west of the railroad limit, that are subject to private entry; I mean odd sections?—A. Yes.

Q. How many acres?—A. I cannot estimate, but there is quite a lot of land there yet.

Q. Do you know whether there are any, and, if so, about how many acres of land in odd sections, west of the railroad limits, in the Upper

Peninsula of Michigan now subject to private entry or that have not already been entered?—A. I know that there are some vacant. I do not know how many.

Q. Do you know about how many?—A. No; I cannot state.

Q. As many as 10,000 acres?—A. I would not like to testify to the number of acres. I cannot testify anywhere near the quantity.

Q. Do you know whether there are any lands in the Upper Peninsula of Michigan, west of the railroad limits, that are now subject to private entry—undisposed of by the Government?

(Mr. Redington objected on the ground that it involved an expression of opinion by the witness as to the legal status of these lands.

Mr. Davis then modified the question.)

Q. Do you know whether there are any lands in the Upper Peninsula of Michigan, west of the railroad limits, that have not been disposed of by the Government—odd sections?

(Objected to by Mr. Redington and objection overruled.)

A. Yes.

Q. Where [referring to the large map]?

(Mr. Redington objected to the testimony on the ground that it was incompetent and immaterial as affecting any question pending before the committee. If the canal was not completed within the time prescribed by the act, then the canal company was not entitled to any lands. If it was completed within the time, and if the canal company made improper selections, that could not now be remedied by selecting lands which in the mean time the Government had disposed of.

Mr. McCarter said that it could be remedied by selecting the same lands over again that were now nearest the canal.

The objection was overruled.)

The WITNESS. Yes, there are some odd sections down in these towns, 34–39, 45–40, 49–48, and 48–44 [indicating on the map].

Q. Do you know about how many acres are now undisposed of in the townships you have mentioned that are east and west and south of Lake Gogebic?—A. I do not know.

Q. Can you not form any estimate?—A. I cannot. They may have been taken up since I left the office.

Q. When you left the office can you form any estimate about how many acres were untaken?—A. I suppose a few thousand acres—a couple of thousand. There are some more off here [indicating on the map].

Q. State whether the designation of the railroad limits on the books of your office, as they existed in 1868, still exist.

(Objected to by Mr. Redington, on the ground that the witness had never testified that the books of the local land office at Marquette showed the railroad limits of 1868.)

Q. Do you know whether the status of the land up there in regard to railroad limits is the same now as it was in 1868?

(Objected to by Mr. Redington on the ground that the testimony was immaterial and incompetent. Objection overruled.)

A. A good many of the lands have been selected since 1868.

Mr. PAYSON. Is the condition of the undisposed of lands the same now as it was then, so far as you know?

The WITNESS. Yes.

By Mr. DAVIS:

Q. Do the same railroad limits there exclude certain lands, as was the case in 1868?—A. Yes; to the best of my knowledge. Of course I cannot testify that the limits were there in 1868.

By Mr. REDINGTON:

Q. Have these lands that you speak of, west of the railroad limits been disposed of since 1868?—A. They have been sold by cash entries and warrant entries and scrip entries.

Q. Do you know whether those warrant and cash entries are a valid disposition of the public lands of the United States?—A. I cannot state that.

Q. You do not pretend to say that there have been any legal sales of these lands either by cash or warrant?—A. We supposed that they were legal.

Q. Do you not know, as a matter of fact, that these lands are all in controversy now, and that the entries are claimed to be all illegal?—A. That is what I hear since I came to Washington.

Q. Are there any other class of entries there? Have any lands been taken by soldiers' additionals?—A. Yes.

Q. Do you know who has taken them by soldiers' additionals?—A. I cannot tell who located them.

Q. Do you know whether it was J. M. Longyear?—A. I cannot swear that it was he.

Q. Do you know anything about J. M. Longyear and about scrip applications made to him?—A. I heard that he located lands colored on his maps.

Q. On what maps?—A. I mean colored on small maps issued by the canal company. I do not know whether John M. Longyear owns them. They are advertised as John M. Longyear's private lands.

The committee here took a recess.

AFTER RECESS.

THOMAS R. BENTON was recalled and presented a map to Mr. Davis.

By Mr. DAVIS:

Question. Is the plat which you now produce the plat which you say was found in the General Land Office?—Answer. Yes, sir.

Q. It purports to be a map of Keweenaw Point, Lake Superior, Michigan?—A. Yes.

Q. Is this a sectional map of Keweenaw Point from township 52 north, range 33 west?—A. It is a sectional map of Keweenaw Point, commencing at and including township 52 north, and running in a northeasterly direction to Lake Superior. It includes range 36. It runs from range 33 to range 38, and a portion of 39.

Q. Is this one of the records of the Land Office?—A. I cannot say that it is.

Q. Can you leave it with the committee?—A. I do not think I can. It may be a part of the records. I found it in the desk of the clerk who had charge of Michigan matters for several years.

Q. Is this one of the records of the Land Office?—A. Yes; I should think so. At all events it is such a one as I would not have authority to leave unless I were directed by the Commissioner.

Q. A tracing of it can be made, I suppose?—A. Yes.

Q. Can it be made at the request of the chairman of this committee?—A. If the chairman requests a certified copy of it there is no doubt but that the Commissioner will have it made.

Mr. REDINGTON. I object to the introduction of the map as utterly immaterial to prove anything.

Mr. DAVIS. I have not yet offered it.

Mr. REDINGTON. Then the understanding is that unless this map or a certified copy of it is introduced in evidence, and unless Mr. Benton returns for cross-examination in regard to it, his testimony on the subject is to be stricken from the record.

Mr. PAYSON. This is all preliminary.

Mr. DAVIS. I want to show that there is a map of Keweenaw Point in the General Land Office, as described by the witness.

Mr. REDINGTON. That is all that I want.

Mr. DAVIS. And it is all that I want at present.

THEODORE M. DAVIS recalled.

By Mr. REDINGTON:

Question. Can you tell me what the canal company has realized from the sales and the leases of the lands to which you have already referred?—Answer. No; I cannot.

Q. Can you approximate the amount?—A. I can guess.

Q. Can you not give a general estimate of the amount of money realized from the sales and leases of the canal lands?—A. Nothing but a guess.

Q. Has not the canal company realized from the sale of lands and timber and from leases and options more than the original cost of this canal; and would not the company, in addition to that, have still 250,000 acres of land left, provided the grant should be forfeited as to those lands that were located contrary to law by going farther from the canal than other lands that were omitted to be entered?

(Objected to by Mr. McCarter, and objection sustained.)

By Mr. REDINGTON:

Q. I hold in my hand a report by the Committee on Banking and Currency to the Forty-sixth Congress, being House of Representatives report No. 1463. It appears to be a report of an investigation into your conduct as the receiver of the Ocean National Bank. On the first page of it the committee says (apparently finding a matter of fact) as follows:

> The principal, if not the only, question before both committees being as to the faithful or unfaithful discharge of the duties of the receiver of the Ocean National Bank in his management of its affairs as such receiver from the date of his appointment to the respective periods of each investigation.

Do you understand that to be the question that was investigated and reported upon by the Committee on Banking and Currency of the House of Representatives in the Forty-sixth Congress?

(Objected to by Mr. McCarter, and objection sustained.)

Mr. REDINGTON. I propose in my cross-examination to interrogate the witness in regard to the ownership of the present canal company. In order to do that I propose to read to him the findings of fact accompanying the Buckner report in part, and from that to interrogate him as to the accuracy of his statements as made on the direct examination touching the ownership of the lands by the present canal company. He testified that the canal company's title was claimed in a certain way. I propose to interrogate him on that point.

Mr. PAYSON. You ought to do it without reference to the report. That report cuts no figure here, as it is ruled out. If you wish to cross-examine him as to the ownership of the canal company you must do so without reference to that report. That report, in my judgment, has no more reference to this investigation than if it had never been made.

Q. Were you the subject of investigation before a committee of the House in the Forty-sixth Congress?

(Objected to, and objection sustained.)

Q. Was the question as to the title of the present canal company, or were any proceedings antecedent to the time when it claimed title or acquired title investigated by a committee of the House in the Forty-sixth Congress?

(Objected to, and objection sustained.)

Q. You were at one time receiver of the Ocean National Bank?—A. Yes.

Q. At the time of the failure of that bank did you take possession, as receiver, of sundry debts of stockholders and others secured by the bonds and stock of the Portage Lake and Lake Superior Ship Canal Company?—A. Yes.

Q. Is it not true that the chief value at that time of the Portage Lake and Lake Superior Canal Company's bonds consisted in the company's ownership of 400,000 acres of iron and pine land in the Upper Peninsula of Michigan, given by Congress to the State of Michigan?

(Objected to, and objection sustained.)

Q. Is it not true that you, as receiver of the Ocean National Bank, found stock or bonds of the Portage Lake and Lake Superior Ship Canal Company as assets of the bank; that as such receiver you depressed the value of those bonds and stock in the market by representing to various persons that the securities were worthless, because the canal had not been completed, and is it not further true that, having so depressed the value of the bonds, you were one of a syndicate that purchased them in, and on those proceedings founded the present claim of title in the present canal company?

(Objected to, and objection sustained.)

Q. Is it not true that, up to the time when you sold those bonds to that syndicate, or when you, as a member of that syndicate, were interested in the purchase of the bonds, they had been selling at from 50 to 75 cents on the dollar.

(Objected to, and objection sustained.)

Mr. PAYSON (to Mr. Redington). This is all waste of time. You have got it in the record that, in the judgment of the subcommittee, any of the proceedings investigated in the Forty-sixth Congress, and the substance of which appears in the record, is incompetent in this investigation.

Mr. REDINGTON. I am not cross-examining from the report.

Mr. PAYSON. It is not a cross-examination upon anything gone into on the other side. It was not opened up on the other side at all, and is therefore an improper examination. I do not think you ought to ask us to sit here for any such purpose. I do not think we ought to be asked to sit while you proceed in going all through that report and making extracts from it in the form of questions simply in order to have them in the record. Time is worth something.

By Mr. MCCARTER:

Q. You gave a partial list from recollection in reply to an inquiry from Mr. Redington of the persons interested in the canal company. Has your memory been refreshed since then as to a number of other persons who are interested in the canal company?—A. Yes.

Q. State what other persons are stockholders?—A. Mrs. Ayer, Mrs. Andrews, Mrs. Ely, Miss Ely, The Merchants' National Bank of Lowell, C. F. Cook, of Chicago; Mr. Butler, of Detroit; Mr. Sexas, of Chicago;

Mrs. Holbrook, of New York. There are other stockholders, but those are all that I remember.

Mr. PAYSON. We only allow these lists on either side to go in on the assumption that it may be desirable to be shown by the opponents to the canal company that some of the present owners were interested in the original company. For that reason alone we allow this examination.

JAMES PRYOR recalled.

By Mr. DAVIS:

Question. Referring to the dredging that was done at the canal between the piers and outside of the piers and in the canal proper, were you present from time to time when the sand and matter that was being dredged out came to the surface?—Answer. I was.

Q. Tell the committee what kind of sand was dredged out between the piers and beyond the piers.—A. It was this clear-grit sand, similar to what is found along the lake shore, interspersed with pebbles, the same as are found on the shore.

Q. What kind of sand was dredged out of the canal proper?—A. That was somewhat different. It was a mixture of sand, clay, and *débris* that would come in from the jaws of the piers and be deposited there.

Q. Referring to the two high banks near Lake Superior in the canal, is that grit sand, or is it the other kind of sand?—A. The outside end of the banks is a mixture of grit sand, pebbles, and clay, but as you get farther in the canal the pebbles disappear.

Q. The grit sand that you dredged out between the piers and beyond the piers is that found inside the canal?—A. No.

Q. Where is that found?—A. That is found beyond the piers and between the piers, about even with the lake.

Q. Where is that grit sand of which you testify found, away from the canal along the beach?—A. Outside of the piers on both sides.

Q. On the beach?—A. Yes, sir.

Q. In other words, is it, or is it not, the kind of sand that composes the beach of Lake Superior?

(Objected to, and objection sustained.)

Q. What kind of sand is found on the beach of Lake Superior?—A. Grit sand and pebbles.

Q. Is it, or is it not, the same kind of sand which you dredged out between the piers and beyond the piers?—A. It is.

Q. What kind of sand is it that forms outside of the western breakwater?—A. Lake-shore sand.

Q. Is that the sand you call grit sand?—A. Yes; sand that does not adhere. When it is dipped up in the dipper it will all pass through a small aperture. Hence there is difficulty in holding that outside sand in the dipper, but with the sand taken out of the canal the dipper will remain full all day, and will not wash out.

Q. Did you take soundings of the canal between the piers and the canal in 1883?—A. Yes.

Q. Have you the soundings with you?—A. I have a memorandum of soundings that I took.

Q. Produce it.

(The witness produces a paper.)

Q. Did you make these soundings?—A. I penciled them down as they were made. They were made under my observation and directions.

Q. What is the paper that you now produce?—A. It is a memorandum of soundings taken about the end of June, 1883.

(The paper was offered in evidence, and was marked E E.)

Q. Were these soundings taken before you finished the spring dredging?—A. Yes.

Q. Have you a copy the soundings that were made in 1882?—A. Yes [producing it].

Mr. PAYSON. These soundings were made before you commenced to do the dredging?

The WITNESS. Yes.

Mr. PAYSON. How far out do the soundings extend?

The WITNESS. About abreast of the piers.

Mr. PAYSON. What would this end indicate?

The WITNESS. The south end of the canal.

(The paper was put in evidence and marked F F.)

Mr. Payson directed (as the papers were in pencil-mark and liable to be defaced), that correct copies should be made in ink, and that those copies should be put in evidence in place of the originals.

(The copies were made and compared by the clerk, and were put in evidence, marked Exhibts E E, F F.)

By Mr. REDINGTON:

Q. When did you make the soundings in 1883?—A. About the 1st of July.

Q. And up to that time you had not dredged?—A. No, sir; not that year. The canal did not require dredging.

Q. Did you put these figures down on this paper in 1883?—A. Yes.

Q. About the 1st of July, 1883?—A. About that, before the dredging began.

Q. Where have you had this paper since?—A. I carried it in my pocket a good deal during the summer season, and then I filed it in the office. I generaly carried that paper with me to show captains how the water was. I carried a similar one every year, so as to let the captains know the state of water in the canal.

Q. Have you got any of those memoranda prior to 1882?—A. I have not preserved any.

Q. Did you make any?—A. Oh, yes; every year.

Q. And you only preserved these two?—A. These are the last two years.

Q. Why did you not preserve the others?—A. I did not suppose they were of any consequence.

Q. Did you think it of any consequence to preserve these?—A. No.

Q. Then there was no reason why you preserved these more than the others?—A. No; I merely made them for my own use for the season only.

Q. You heard the testimony of these steamboat captains the other day?—A. I did.

Q. And you still think that in July and June, 1882 and 1883, these soundings were right?—A. Yes, sir.

Q. Whereabouts did you take the soundings—in the middle of the channel?—A. Zig-zag through the canal.

Q. What did you take them for; was it for the purpose of informing captains?—A. For the purpose of informing myself as to the condition of the canal.

Q. And you told the steamboat captains the depth of water in the

canal from these soundings?—A. They generally asked me every time they came how the water was.

Mr. DAVIS. You say that the soundings in 1883 were made in July. In your direct testimony you said that they were made in June. Which is right?

The WITNESS. They were made either about the last of June or the first of July; I cannot tell to a day.

J. M. LONGYEAR sworn and examined.

By Mr. DAVIS:

Question. Where do you live?—Answer. Marquette, Mich.

Q. What is your business?—A. Land agent for the canal company and in general land business.

Q. How long have you been land agent of the canal company?—A. Since August 1, 1878.

Q. When did you go to Marquette?—A. June, 1873.

Q. During the five years that you lived there before you became agent for the canal company, what was your business?—A. Most of the time examining lands.

Q. In the woods?—A. In the woods.

Q. Besides being land agent for the canal company, what other occupation have you at Marquette?—A. I am in the general land business there.

Q. What do the duties of your office consist of?—A. Buying and selling lands for myself and other people.

Q. For about how many acres of land are you the agent outside of the canal company?—A. Between 200,000 and 300,000 acres besides the canal lands.

Q. Are you still engaged in that business?—A. I am.

Q. Have you more or less knowledge of the geology of the Upper Peninsula?—A. I have some knowledge of it. I made a study of it for a number of years in connection with the development of mineral lands.

Mr. DAVIS. In that connection I offer in evidence, from page 15 of the Canal History, letter of June 15, 1868, from the Commissioner of the General Land Office to the Secretary of the Interior.

(The letter was put in evidence, and marked Exhibit F F 1.

Mr. Redington also put in evidence, from page 17 of the Canal History, letter of June 6, 1868, from the Secretary of the Interior to the Commissioner of the General Land Office, and it was marked Exhibit G G.)

Mr. REDINGTON. I read to the committee and to the witness this extract from Exhibit F F 1, letter from the Commissioner of the General Land Office to the Secretary of the Interior: "The act of Congress of March 1, 1847, directed that a geological examination and survey be made of the lands in the Upper Peninsula of Michigan, and Dr. Jackson was selected and authorized to perform that duty and make a report, which he did on the 10th November, 1849, reporting specifically and by reference to subdivisions of the United States survey, the mineral lands in said district as appears by the report of the Commissioner of the General Land Office for the year 1849, which lands, so reported, were thereupon noted upon the tract books here, and designated as 'mineral.' Also, on the 16th of April, 1848, instructions were issued to the land offices at Lake Superior to note on their records, from a preliminary report of Dr. Jackson, such tracts represented as 'mineral.'" Have you in your possession the reports referred to in that letter?

A. I have.

Q. Will you produce them?

(The witness produces the Jackson report.)

Q. Turn to the page of that report which purports to give a list of the lands designated as mineral?—A. I have several of these lists here.

Q. What do they purport to be?—A. One is a list of mineral lands in the region between Portage Lake and Montreal River in the Lake Superior district. It is on page 596 of the report of the Commissioner of the General Land Office for 1849. There is also another list on page 608.

Mr. Davis said that he proposed to show that the canal company took no lands that had been designated as mineral before the passage of those acts.

Mr. REDINGTON. Is that all that you introduce this for?

Mr. DAVIS. That is all.

Mr. REDINGTON. I have no objection to its introduction in so far as it tends to prove any such condition of facts.

Mr. DAVIS (to the witness). Do the lists published in the report which you produce cover all the Upper Peninsula of Michigan in which the canal company has located any lands?

Mr. REDINGTON. The report speaks for itself. I object to the witness testifying as to anything which the record shows.

Mr. DAVIS. I propose to show by the witness that the lists of lands embraced in the Jackson report cover all the territory in the Upper Peninsula of Michigan in which the canal company has located lands, and to show by the witness that the canal company took no lands that had been therefore designated as mineral.

Mr. REDINGTON. The objection is that these lists do not cover the entire Upper Peninsula of Michigan where the canal company had located lands.

After argument, Mr. Davis withdrew the question.

Mr. DAVIS. This report from page 596 to page 611, inclusive, contains a list of mineral lands which I claim to be the list of lands designated by Dr. Jackson as mineral lands in the Upper Peninsula of Michigan.

Mr. PAYSON. And that list you have offered in evidence.

Mr. DAVIS. Not yet. [To the witness.] State whether that covers the territory of the canal company's selections?

(Question objected to by Mr. Redington and withdrawn.)

Q. Have you ever examined the map of the canal company's location of lands?—A. I have.

Q. Have you compared the map of the canal company's location of lands with the list about which you are testifying—the Jackson list, as I call it?—A. I have.

Q. Are any of the lands that were taken by the canal company lands designated in the Jackson report as mineral.

(Objected to by Mr. Redington.)

Mr. DAVIS. Then I offer this Jackson report.

Mr. REDINGTON. I object to it on the ground that there is nothing in the book in which it appears to show that it is the Jackson list.

Mr. DAVIS (to the witness). What is the book that you produce.

The WITNESS. It is the report of the Commissioner of the General Land Office for 1849.

Q. In that book appears what?—A. Appears the report of Dr. Jackson.

Q. What does it purport to be?—A. A geological report of the survey of the Upper Peninsula of Michigan.

Mr. REDINGTON. At what page does it commence?

The WITNESS. At page 355.

Mr. DAVIS. Is it embodied in the report of the Commissioner of the General Land Office for the year 1849?

The WITNESS. It is in this book.

Mr. PAYSON. That appears to be the same date as the one referred to in the Canal History.

Mr. DAVIS. I offer in evidence all of Dr. Jackson's report and the report of the other geologists, Foster and Whitney, that are embraced in the report of the Commissioner of the General Land Office to the Congress of the United States for the year 1849.

Mr. REDINGTON. I have no objection, if the whole report is submitted.

Mr. PAYSON. Mr. Davis has not limited it.

Mr. DAVIS. I put in all the reports. I offer to prove by this witness that no lands designated as mineral, before the passage of the acts of Congress of 1865 and 1866, were ever taken by the canal company.

Mr. PAYSON. The only way that that could be done is by comparison, and it involves some labor.

Mr. DAVIS (to the witness). Did the canal company select any mineral lands?

(Objected to Mr. Redington, and objection sustained.)

Q. Are you familiar with the land office at Marquette?—A. I have done a good deal of business at the office, and, of course, I am more or less familiar with the office.

Q. Have you entered a great many acres of lands there?—A. I have.

Q. For private parties, and not connected with the canal company?—A. Yes.

Q. What has been your experience at that land office as to the date when you would get your certificates in respect to the date of the applications for the lands?—A. It has always been some weeks after the application was made before I could get the certificates of entry.

Q. Has it ever been longer than weeks?—A. Yes; I think it has been several months in some cases. I do not know how long, but a long time.

Q. Was that your experience under Mr. Campbell, while he was register?—A. I did not make many entries under Mr. Campbell, and I do not recollect whether I had that experience under Mr. Campbell or not.

Q. What register had you experience with?—A. Most of my experience in entering land has been under Mr. Stafford, the successor of Mr. Campbell.

Q. What caused the delay in getting certificates?—A. I do not know.

Q. Are you familiar with the lands that are shaded on this large map produced by Mr. Redington (Exhibit ——), the land lying west and south and east of Lake Gogebic, and shaded red?—A. I am familiar with that district. I have been through a number of times and have examined the lands in it. I think I may say that I am familiar with the district.

Q. You have been through it personally?—A. Yes; a number of times.

Q. Are you a judge of pine timber and hard-wood timber?—A. I am.

Q. You have been all through there for the purpose of looking up timber for its value in entering land?—A. Yes.

Q. Have you had men through that district examining the property?—A. I have.

Q. Are you familiar with the lands in the Goegbic district which were entered by the canal company?—A. Yes.

Q. They have been examined by experts?—A. Yes.

Q. Have those experts made reports?—A. They have.

Q. Have you read those reports carefully?—A. I have.

Q. Tell the committee how these lands shaded red on the west, south, and east of Lake Gogebic compare in the products on the face of them with the lands entered by the canal company.

(Objected to by Mr. Redington, and objection sustained.)

Mr. DAVIS. I propose to show that the lands shaded red on the large map introduced by Mr. Redington (Exhibit ——) have been personally examined by the witness and by agents employed by him; that all of the lands of the canal company in that district have been personally examined by him; that he knows what is on the surface of both these tracts of property; and that the lands shaded in red are worth ten times as much per acre as the lands taken by the canal company. I also propose to show by this witness that the lands entered by the canal company in that portion of the Upper Peninsula of Michigan known as the copper range have been in the possession of the canal company since 1877 and that no copper has been found on any portion of them. I also propose to show that the lands in the first grant located in the neighborhood and west of Lake Gogebic.——

Mr. PAYSON. As to the lands selected in the Upper Peninsula having no mineral on them, as the restrictions in your grant were that you should not take land designated as mineral, it may be competent to show that, but not in connection with their value.

Mr. DAVIS. I also offer to show that all the lands selected under the first grant in the neighborhood of Lake Gogebic and shaded green on this large map (Exhibit ——), appear from the reports of experts who have examined every 40-acre tract, to have no intrinsic value. I also propose to show that the canal company has abandoned a large number of acres of that first grant for taxes as being worthless.

Mr. PAYSON. I do not think that that is material. The question of value is utterly immaterial.

By Mr. REDINGTON:

Q. You are the general agent for the canal company?—A. I am.

Q. In that capacity have you ever marked off, on the tract books in the local land office, in advance of selection, any tracts of public land?—A. No, sir; I never had anything to do with selections. That was all done before I had any connection with the company.

Q. Have you ever marked off any tracts in that way in your own name?—A. I never marked any books in the land office.

Q. Did you ever cause it to be done?—A. No, sir; except when I purchased land.

Q. Have you made any soldiers' additional entries on the lands shaded red in this large map?—A. I think I have.

Q. How many?—A. I do not know.

Q. Are they lands which the canal company might have taken?

(Objected to, and objection sustained.)

Q. Are they lands which lie to the west of the 15-mile limits of the Ontonagon and State line road?—A. Yes; I think they lie mostly in 47, 40, and 47, 41.

Q. Do you know anything about the Selden homestead claim?—A. I know that there is such a claim.

Q. Did you ever attempt to buy that patent?—A. No, sir.

By Mr. DAVIS:

Q. Did you ever enter lands in these townships with soldiers' additional scrip for the canal company?—A. Yes; 120 acres.

Q. How did you happen to locate those lands for the canal company?—A. My first transaction for the canal company was the settlement of a

trespass. I was instructed to proceed and work up a trespass. I sent to the land office for maps showing the lands of the canal company on the Ontonagon River. My information was that there was a trespass on the Ontonagon River. The maps were sent to me, and I found the trespass was in town 47, 40. I looked it up. The land appeared by the maps to belong to the canal company, and I settled the trespass on that basis. About a year afterwards, in making up my plat book for the canal company, I found a large amount of land marked on the Government books as belonging to the canal company which did not belong to the canal company, including a part of that land for which I had collected trespass.

Mr. PAYSON. Then the trespassers assumed that you had title to that land?

The WITNESS. Yes; there never was a question about it. I then advised the canal company to purchase this land on which I had collected trespass with soldiers' additional certificates, and that was done.

Mr. DAVIS. With that exception, did you locate any soldiers' additionals?

The WITNESS. No, sir.

By Mr. REDINGTON:

Q. Did you pay the money back to the trespasser?—A. Certainly not.

Q. Then, as you understood it, you collected money from a fellow for trespassing on land which did not belong to the canal company, and in order to avoid paying him the money back you had the canal company buy the land?—A. Yes. A part of the land on which the trespass was committed was ours. How much of it was ours, and how much was not, we did not know, so in order to clear the matter up the canal company bought the land.

By Mr. DAVIS:

Q. In order to protect itself from suit for trespass by the United States?—A. I suppose it had that effect.

Q. With that exception, did you ever enter any lands up there for the canal company with soldiers' additional scrip?—A. I never did.

Q. Did you ever buy any land for the canal company?—A. I never did.

Q. Did the canal company buy any other land there?—A. No.

Q. All the entries that you made there have been for private individuals?—A. All.

Q. Including yourself?—A. Yes.

Q. Do you know whether there are any lands now in Ontonagon County in the Upper Peninsula of Michigan, in the district shaded red upon the map produced by Mr. Redington (Exhibit ——), that are undisposed of by the United States?—A. I do not know of any lands there which can now be purchased of the United States south of town 47.

By Mr. REDINGTON:

Q. What do you mean by saying that you do not know of any lands there that can now be purchased from the United States?—A. I mean this: I made an inquiry at the local land office some time last fall for vacant lands in the south part of Ontonagon County, and I was informed that there were no vacant lands in Ontonagon County south of town 47.

Q. That is all you know about it?—A. That is all I know about it.

Q. Do you know how these lands were disposed of?—A. No, not all of them. I know how some of them were disposed of.

Q. A great many of them were disposed of by cash entries?—A. Yes, nearly all.

Q. And warrant entries?—A. Yes; and some homesteads.

By Mr. DAVIS:

Q. You made this inquiry at the local land office at Marquette?—A. Yes.

Mr. PAYSON. Are you the man to whom a letter was addressed that appears in print in some of these pamphlets?

The WITNESS. I think there is some of my correspondence in the Canal History.

Mr. DAVIS. There is a letter in the Ontonagon and Brulé River Business addressed to J. W. Longyear in 1869 about lands in the Upper Peninsula of Michigan. Are you that Mr. Longyear?

The WITNESS. I am not.

Mr. DAVIS. Who was that Mr. Longyear?

The WITNESS. That was my father's name.

Mr. REDINGTON. I admit that the witness is not the man. [To the witness.] Was your father agent for the canal company at that time?

The WITNESS. Not that I know of.

AMBROSE CAMPBELL recalled.

By Mr. DAVIS:

Question. Tell the committee what you had to do with the location of the first 200,000 acres of land that were granted to the canal company by the act of March 6, 1865.—Answer. Before I answer I would like to say this with the permission of counsel and with the consent of the committee: I would like to tell it just in my own way so far as my memory serves me.

Mr. PAYSON. You may go on without interruption.

The WITNESS. When I took the office in 1868 the lists for the first grant to the canal company had been made up by my predecessor and had been down here to the Department. Whether they were certified to or not I cannot say. I do not recollect that; but they had been rejected by the Department for the reason that there was a portion of them which fell within the limits of the Marquette, Houghton and Ontonagon Railroad grant, as my recollection serves me, and for the reason that a portion of them were mineral lands. The lists lay there in the office under that condition. After I took the office (I do not know how long after) the State agent came to me and wanted to get these lists in shape. In looking over the matter we decided that the only way in which we could get it in shape was to revise the whole list, and he authorized me to employ a man to help me. I went to work and revised the whole list and cut out the railroad lands, as I supposed, and a portion of the lands which had been denominated as mineral; but I think that some of the lands that were denominated as mineral were put in at the suggestion of the State agent, because he claimed that the lands were not mineral. I left it as a matter for the Department to settle. That is, in substance, all there is of it.

Q. Then you revised the old list and made up a new list of lands?—A. Yes.

Q. And sent it forward to Washington?—A. I gave it to the State agent.

Q. In revising that list and making out a new list, what respect did you pay to the provision of Congress requiring selection to be made from lands subject to private entry and nearest to the canal?—A. I

supposed that we were taking the lists nearest to the canal; I supposed that that matter had been thoroughly looked up by my predecessor. I have no recollection of measuring the distance or anything of the kind.

Q. Had any objection of that nature been made by the General Land Office to the former list that had been sent down by your predecessor, that you know of?

(Objected to by Mr. Redington, and objection overruled.)

A. I have no recollection of any being made.

Q. Was there any objection made by the General Land Office to the list of lands which you revised, on the ground of their not being nearest the canal?—A. There was not, to my knowledge.

Mr. DAVIS. In that connection I will offer from page 9, of the History of the Canal Company, the letter of January 26, 1867, from the Commissioner of the General Land Office to the register and receiver at Marquette.

(The letter was put in evidence and marked Exhibit H H.)

Mr. DAVIS. I will read a portion of that letter. (Reading:)

I have to state, upon a careful examination of the lists of selections made by the agent of the Portage Lake and Lake Superior Ship Canal, under the act approved March 3, 1865, and filed in this office on the 6th ultimo, the following-described selections are found to conflict with tracts already disposed of as shown by the records of this office [then follow the descriptions of three tracts]. * * * I have to call your attention to the rejected list herewith transmitted, which contains 9,552.30 acres rejected as mineral, and 16,111.68 acres found within the 20-miles limits of the Marquette and Ontonagon Railroad. * * * You will please note the same accordingly on your records and refer to this letter.

Is that the letter which rejected the lands in the list sent to Washington by your predecessor?

A. I cannot say. I presume that that was the letter, but I cannot say whether I saw that letter on file in the office, or whether the State agent brought the letter with him. But the lists were in the office.

Q. You say that you revised that list and made out a new one, and you think that you included some of the same lands that were rejected as mineral by this letter and put them in the revised list. In that connection I desire to read a portion of Exhibit F F 1, on page 15. That is a letter from Commissioner Wilson to the Secretary of the Interior, dated June 5, 1868. He says:

The act of Congress of March 1, 1847, directed that a geological examination and survey be made of the lands in the Upper Peninsula of Michigan, and Dr. Jackson was selected and authorized to perform that duty and make a report, which he did on the 10th November, 1849, reporting specifically, and by reference to subdivisions of the United States Survey, the mineral lands in said district.

This letter and the letter marked Exhibit H H are those the letters that rejected the 7,000 acres of mineral lands that were included in your second list?

Mr. PAYSON. Have you any personal knowledge as to that list of 7,000 acres?

The WITNESS. I know that there was a portion of the list rejected, to the number of 7,000 acres, but I do not recollect whether this is the letter which made that rejection.

By Mr. DAVIS:

Q. You know that some of the list was rejected?—A. Yes; several thousand acres were rejected.

Q. Do you know any other letter by which they were rejected, except this?—A. I do not recollect.

Q. In making this revised list of 200,000 acres under the act of 1865,

was there any intention on your part not to select lands nearest the canal?

(Objected to, and objection sustained.)

Q. Was there any fraud or corruption or bribery or inducement of any kind exercised by anybody to induce you to make an improper selection of these lands?—A. I did it all in good faith. The selections were made in good faith.

Mr. DAVIS. I offer in evidence such pages of the History of the Canal Company as have not been already offered in evidence on either side.

(Objected to by Mr. Redington.)

Mr. PAYSON. I think that the book may be considered in, errors and omissions excepted.

Mr. REDINGTON. I object to the introduction of the book, because I know it to be inaccurate.

Mr. Payson ruled that the book was admitted, subject to the right of correction at any time.

Mr. DAVIS. I now make the same offer in reference to the History of the Ontonagon and State Line Railroad grant, second edition.

(The book was admitted in evidence.)

Mr. Davis asked Mr. Redington whether he would admit that P. J. Avery, the State agent, was dead?

Mr. Redington made that admission.

Mr. DAVIS. And also that Mr. Edwards, the register of the land office at Marquette, is dead.

Mr. REDINGTON. Yes.

Mr. McCarter announced that the case was completed on his side.

Mr. REDINGTON said that the case was closed on both sides.

Mr. PAYSON. We have agreed that after the record has been written up, at such convenient time as may suit counsel on both sides, instead of having any argument made before the subcommittee, it will be made before the full committee.

Mr. MCCARTER. Will the full committee have to rely upon that argument alone for information in this matter.

Mr. VAN EATON. Not at all. The full committee will have the testimony before it. You gentlemen will argue the facts and the law, and if there be any dispute about the facts, the evidence will be here to be referred to.

Mr. MCCARTER. My reason for asking is that, if the committee will read the testimony, there are many things in it which I might not refer to.

Mr. PAYSON. I think you had better, on both sides, act upon the assumption that the full committee will not know much about the evidence.

Mr. VAN EATON. Our idea is, that you will argue from the evidence fully.

Mr. REDINGTON. Has the subcommittee taken into consideration the question of having the evidence printed?

Mr. PAYSON. We have not, and we do not think we will. The printing would be expensive, and we do not feel like putting the Government to the expense of printing the record unless it be necessary. I doubt whether the full committee will feel like asking permission of the House to print all the papers in advance of the case being reported to the House.

Mr. REDINGTON. I am afraid that the arguments are going to run into disputed questions of fact.

After some further conversation it was arranged that the closing arguments shall be commenced on Wednesday, the 21st of May.

EXHIBITS.

EXHIBIT K.

WAR DEPARTMENT,
Washington City, March 21, 1884.

SIR: In reply to your letter of the 14th instant, inquiring whether there is on file in this Department a plat or plan of the Portage Lake and Lake Superior Ship-Canal, I beg to inform you that a map of said canal was furnished this Department by the General Land Office, Department of the Interior, under date of May 12, 1865, and is now on file.

Very respectfully,

ROBERT T. LINCOLN,
Secretary of War.

HORACE J. FROST, Esq.,
Land Agent, Canal Company, &c., Box 613, *P. O., City.*

EXHIBIT P.

Statement of expenses of operating L. S. Ship-Canal from 1874 *to* 1883.

1874.	Total expense incurred for season				$9,184 61
1875.	"	"	"		4,965 56
1876.	"	"	"		6,444 05
1877.	"	"	"	90 11 8,119 38	8,209 49
1878.	"	"	"	1,200 00 5,722 83	6,922 83
1879.	"	"	"		7,248 30
1880.	"	"	"		6,870 03
1881.	"	"	"		5,886 87
1882.	"	"	"		7,586 01
1883.	"	"	"		6,829 04
	Total expense				$70,146 79

Total receipts of tolls and all income from canal and other sources connected with its operation.

1874.	Total receipt from canal, &c			$9,126 36
1875.	"	"	"	5,698 20
1876.	"	"	"	4,015 86
1877.	"	"	"	4,948 80
1878.	"	"	"	6,158 43
1879.	"	"	"	7,094 34
1880.	"	"	"	7,902 29
1881.	"	"	"	8,804 91
1882.	"	"	"	11,478 83
1883.	"	"	"	9,825 11
	Total receipts			$75,053 13

Total receipts	$75,053 13
" expenses	70,146 79
Net gain	4,906 34

EXHIBIT Q.

REPORT ON PORTAGE LAKE AND LAKE SUPERIOR SHIP-CANAL.

Dec. 13, 1870.

To His Excellency Governor H. P. BALDWIN.

SIR: I have the honor to present for your consideration a report on the Portage Lake and Lake Superior Ship-Canal—a work still in process of construction. A brief history and description of this important improvement may not be out of place here. Having received my appointment as State engineer in charge of the canal only on the 1st of June, 1869, superceding I. N. Greene, esq., of the State of New York, who was appointed by your distinguished predecessor, and who made the original surveys and plans and directed the work for two years or more.

In the year 1865 Congress granted 200,000 acres of land to be selected in the Upper Peninsula for the purpose of building this canal. The legislature of this State—session of 1865—accepted this grant, made the necessary legislation, and placed the building of the canal in the hands of Messrs. Avery, Wells, and other parties residing in the city of New York. Subsequently 200,000 acres more were granted for the same purpose. I was not very familiar with the operations previous to the date of my appointment. But I am informed that land grant for building the canal was made by Congress in 1865, and that for two or three years subsequently the canal company were engaged in explorations of lands. Surveys of canal and the procurement of machinery followed during the next two or three years; but it was not before the year 1868 that decidedly active operations on the canal began.

The spring of 1869 saw much preliminary work done, necessary and valuable, still the actual quantity of dredging already performed was small—only a few thousand yards. Two new dredges of the dipper pattern were added to the list of effective machinery, besides other appliances necessary in water excavation. Work was resumed with great activity all along the line of canal from Portage Lake to L. Superior under the most favorable auspices, and with assured promises of speedy completion.

Mr. Jabes M. Woodward, E. E., a gentleman of great experience and learning, had come on from Brooklyn, and, as gen. supt., assumed the management for the company.

I ought to state in order to a clear understanding of the subject, that owing to the deep snows and extreme cold of the winter months in the Lake Superior country, such work as dredging, building piers and docks, cannot be done, hence the company are enabled to work effectively only six months during each year, thus apparently protracting the time given in which to build the canal. This fact should not be forgotten. There is another point perhaps not fully understood by the public in general. I have had fears that the members of the company themselves have not comprehended it fully, namely, that the P. L. and L. S. C. is a work of *great magnitude* as well as of importance; that it will cost more when completed than did the Santa Ste. Marie Canal; that the 400,000 acres of land granted for its construction must needs be very choice land if the money resulting from sales thereof meets the disbursements. However, it is understood the said 400,000 acres included some of the best iron and pine lands in the State, and are therefore very valuable.

This canal, connecting P. S. and L. S., is 12,160 feet or about 2¼ miles in length, measuring from the 13 feet navigable water on east side curve in Portage Lake to the 15 feet curve in Lake Superor. Measuring between the piers at the Portage Lake entrance, the canal is 200 feet wide, and at point 922 feet north it is 124 feet, thus affording an easy approach and ample room for vessels to pass each other or lie alongside of the docks. The docks on the east are to be from 12 to 18 feet in width, built in substantial and convenient manner. From the point last mentioned to Lake Superior, with the exception of a wide basin or turning out place in Lily Pond, the canal is to be 100 feet wide between the docks. The entrance on the Lake Superior side between the piers is 250 feet wide. The depth of water through the canal, on the centre line as called for by the specifications, is 13 feet. In my opinion the depth should be 15 feet.

The excavations, by dredging or otherwise, has been heavy, amounting in all to nearly one million cubic feet. Starting from Portage Lake the canal passes in a northerly direction (N. 6° W.) a distance of 3,205 feet through a thick alder and cedar swamp, where the average cutting was 14 feet, thence a distance of 2,018 feet through Lily Pond, which for the most part was covered with thick matted turf and grass floating on the water or resting upon a substratum of black slimy ooze; the average cutting was 10 feet; thence we encounter a tamarack swamp ascending gradually from Lily Pond, covered on surface with bog grass and a sparse growth of small moss-hung tamarack trees. The average excavation was 20 feet, and from the top to the bottom of the canal the ground, a black peaty substance, was found filled with a mass of roots, fallen trees and stumps. It would seem that in the course of ages a

succession of forest trees had grown here, each generation, so to speak, having flourished for a time and then been destroyed, probably by the setting of the land and submerge by water. Large stumps, were found standing evidently in the position in which they grew right over other stumps which had never been removed from their native bed. This timber was sound and very hard. To remove this mass of tangled wood, was a most difficult task for the dredges, but those powerful Osgood and Ohse dipper-dredges tore their way through successfully. Rotary dredges could do nothing with it. The distance through tamarack is 2,400 feet. It is in this swamp that the canal makes an easy curve a few degrees to the west. Leaving the tamarack section we come to the "Sand Sec," which is 3,400 feet in length, and terminates at Lake Superior. This section of the canal was originally covered for the most part with Norway pine; it is the heaviest portion of the work; the deepest cutting being 46 feet and the shallowest 30 feet, while the average cutting will be 34 feet. In some points, the width of the canal, measuring from the top of embankment, will be over 200 feet. The formation is pure sand, with some gravel and dry strata. It was probably deposited by the winds and waves from Lake Superior. During the progress of the work, stone hammers and copper tools belonging to the "ancient miners" have been found buried in the sand from 10 to 20 feet below the surface. During the present season sound oak trees were found at least 15 feet below the surface. We are of opinion that Portage Lake once extended clear through to Lake Superior, and that Keweenaw Point was on an island, and that our dredges are merely clearing obstructions and restoring the waters to their ancient channels.

At the rim of the lake (Superior) and for a short distance therefrom, both outside and inside occurs a stratum of hard pan from four to ten feet in thickness. This is a dry cemented red clay, with some boulders intermixed, and it has proved so hard and tough as almost to defy the most powerful dredges on the work. But a breech has been made through it. In the lake between the pier out to 20 feet water the bottom is composed of sand and boulders, and I apprehend that the dredging will be difficult and expensive. The boulders may be used to fill cribs with.

The importance to navigators of this canal on a short route or cut-off, together with the grand harbor of refuge it will open, which harbor is no less than the whole of Portage Lake, cannot be too highly estimated. By this route the saving in distance and time will be very considerable, as is shown by the reduced chart of Lake Superior herewith presented. It will be seen that from Houghton to Lake Superior, via the canal, the distance is 10 miles. From Houghton to the same point going around Keweenaw point the distance is 111 miles. Thus a clear saving of 101 miles is made by going through the canal. And if we sail from Marquette to Duluth we save 45 miles by taking the Portage Lake and canal route.

The voyage around rock-bound stormy cape Keweenaw, in the fall of the year, especially, is dreaded by all navigators. The whole coast between Upper Harbor and Bayfield is dangerous, presenting few natural harbors accessible during heavy storms; hence the great need of a port of refuge at the point where the canal enters the lake.

If no other good could result from it than the rendering accessible one of the finest harbors in the entire chain of lakes, the successful completion of the canal will amply justify the appropriations to be made for its construction by Congress.

I deem it unnecessary in this report to describe the different processes of construction of this work as set forth very fully in the able plans and specifications provided by my predecessor, Mr. Greene, and approved by Governor Crapo. I will merely run through the work in general terms.

1st. After the dredging is done the canal is to be protected at the sides by lines of substantial docking throughout. To this end two rows of piles are driven on each side; the piles are from 18 to 20 feet long and from 12 to 16 inches in diameter at the butt. The rows are 7 feet apart and the piles in line from 4 to 6 feet apart—longitudinal timber 12-in. square are securely fastened with iron bolts to the front row of piles, which are sawed off at the surface of the water. The front row is then connected with the back row of piles with heavy ties. Behind the front row, sheet piling, pine plank 4 inches thick 16 to 20 feet long, are driven down with pile iron, and the tops bolted to the longitudinal timber. Another 12-in. square timber is placed on in front, so that the top of docks are about 2 feet above the water. To finish up a dredge will fill in behind the front row with material scooped from the bottom of the canal. This makes a very substantial work.

The docks at the Portage Lake end of the canal, reaching out to 13 feet water, as shown by "plan of canal" prepared by myself, herewith presented, are formed by three rows of piles 6 feet apart. These piles are to be capped with heavy pine timber and covered with 4-inch pine plank. At the outer ends of these docks two cribs 18 feet by 18 have been sunk. They will be built 5 feet above the water level, and surmounted by a beacon light on one hand, and a beacon dummy on the other. There being no heavy sea on this end of the canal, this work is deemed entirely sufficient.

On the Lake Superior side, owing to the exposed situation, it is necessary that the

piers should be of the most massive and substantial character. Here the northwest, north, and northeasterly winds have full sweep, and the waves in the fall and winter season dash upon the shore with great fury. By the specifications two piers, 250 feet apart, project from the shore into the lake, terminating in 20 feet water. These piers are crib work of pine or oak, the timbers to be hewn or flattened and securely fastened together with iron bolts. The inner reaches of pier to be 20 feet wide, the outer ends 30 feet wide, and all to be filled with stone, and built up 8 ft. above the water and securely planked over all. The piers are to be further supported by riprap walls, or loose stone thrown in behind the piers. Foundations for the piers must be dredged to a depth 14½ feet below the surface of the water, or 1½ feet below the bottom of the canal.

In the deep cutting, the slopes of the banks are to be 1½ feet or 2 to 1 feet as the engineer may direct. It may be necessary to adopt the slope of two to one through the sand section.

Such, in brief, is the character of the work and modes of construction.

During the season of 1869 a large force of men, averaging probably 500 men, 80 horses, 4 dredges, three tugs, with scows, horse-cars, &c., were employed. Active operations closed on the 15th Nov. of that year. The results were as follows:

From Portage Lake to the Tamarach Swamp, a distance of 6,360 ft., the canal was dredged full width, but only 11 feet deep. One cut 25 ft. wide 8 ft. deep was also made through the Tamarack section. This work was accomplished by three dredges. From the Tamarack Swamp considerable material was removed by hand, and wheeled out at the sides.

During the early part of the season three hundred or more men were employed with horse-carts and hand-barrows in removing the sand from the prism of the canal, from Tamarack section to Lake Superior. The total quantity excavated by these men was 146,431 cubic yards. At some points they excavated to a depth of 20 ft., at others only 4 feet.

The dredge built on the S. I. side, and set to work there, made but little progress during the season. The machinery was too weak for the hard pan accomplished, and the management was altogether inefficient.

During the season about 700 feet length 10 crib work was sunk and partly built above the water. The east pier was broken up and rendered worthless by the November gales; the west pier remains to this day.

Both of these piers were defective, and would not be accepted by me had they remained intact, for the following reasons: They were located and placed by Mr. Woodward, gen'l sup't, in violation of the plain letter of the specifications, and in opposition to sound principles and experience. First, the location was such as not to guard the entrance of the canal, but the angle made by the piers was such as to lead the sea into the canal; secondly, the cribs were sunk on the *natural bottom of the lake; commencing at Zere, on the beach, and extending into the lake.* This was a fatal defect. The specifications required that the foundations for the piers should be dredged to a depth of 14½ ft.; 1½ ft. below the bottom of the dredged canal. The reason for this specification is obvious. A pier set upon the natural bottom, in shallow water, would be liable to undermine, upset, and tumble into the dredged channel, close along tide. Truth compels me to say that these piers were built not only without my approval, but in the face of remonstrances. However, the west pier has served a useful purpose in partially guarding the mouth of the canal from encroachments of waves and drift sand, affording shelter for scows and dredges in moderately stormy weather. The dredge, before the close of the season, worked her way into the lake, but the November gales filled the dredged channel entirely up so that I walked over dry-shod. The tug, dredge, and scows were thus "bottled up" for the winter. During the winter of 1869–'70 the ice accumulated on the west pier to the height of 30 or more feet. About the middle of April, 1870, I found the ice still 20 ft. high on the pier, although no ice could be seen in the lake, a southerly having driven the ice-fields over to the north shore. This immense berg of ice, formed by the waves dashing against the pier, the spray freezing as it fell, I regarded as a favorable circumstance. This great weight resting upon the pier would render it additionally secure; it would seem quite impossible, under the circumstances, that the pier could be disturbed by the ice-fields which sometimes impinge the shore with great force.

At the close of the season of 1869, *although very much had been done*, the promises made at the beginning had not been fully realized. The work was not completed; more than one-half of the dredging and excavation remained to be done; no dock building had been undertaken, while the piers actually constructed could not be accepted.

During the winter of 1869–'70 a small force was employed in quarrying stone and getting out timber, lumber, and wood; also in overhauling machinery.

About the middle of May, 1870, the arrival of Mr. Woodward, gen'l sup't, was the signal for the resumption of active operations. The 4 dredges on hand were set to work in Tamarack Swamp and on the Lake Superior side. Orders were given for the

construction of a very powerful dipper dredge of the Otise build. This dredge was designed for digging foundations for piers and channel-ways in Lake Superior. Early in the season two 20-ton locomotives were placed on the work; track of T-rail were laid down in the "sand section." Two steam dry excavators were also placed on the work. Later in the season two powder pile-drivers, placed on flats, and one pile sawing machinery were added to the formidable list of machinery. The company deserve great credit for their liberality in supplying costly machinery. During the winter private parties had erected a powerful steam saw-mill on the bank of the canal. This mill has been kept busy sawing sheet piling and all other kinds of lumber required on the canal.

Pier work was resumed early in the season; the contract for building was let to Mr. Lambert, an able man, who has had much experience upon public works of this kind. The executive department on the canal was this year reinforced by Mr. Otise, who occupied the position of superintendent and whose large experience on railroads and other public works rendered his services exceedingly valuable.

The work on the canal for the season of 1870 practically closed on the 16th November, on which day the waters of the two lakes were wedded, the two dredges approaching from opposite directions, the one from Lake Superior, the other from Portage Lake, meeting at a point about feet from Lake Superior.

I have prepared and have the honor to submit herewith, a plan of the canal, showing minutely, by soundings and profiles, the condition of the work and the progress made thereon at date 16 November, 1870.

I will now sum up briefly, in words, the results of the present season's operations. For the sake of perspicuity, I shall begin at the Portage Lake end of the canal.

Firstly. *Dredging.*—The canal is dredged full width from 105 to 116 feet wide, as far as the sand section, a distance of 8,625 feet. The average depth is about 10 feet, the required depth being 13 feet. I will state that some portions of this distance was dredged deeper, but the canal has filled in by the wash of the banks and by the leakage of the dump scows which have been towed over the ground for two seasons. Before the canal is finally accepted, and after the docks are finished, a dredge will be set to clean up the bottom and bring the canal to the required depth, which in the center should be 14 feet to comply with specifications, as the general lake level has risen 1 foot within the last two years. Through the sand section to Lake Superior, 3,400 feet on one through cut has been dredged, which cut is from 50 to 60 feet wide, and the average depth on the centre line and deepest part is about 5 feet. It will doubtless be shallower in the spring, as the sand runs in badly from the sides, the ground being full of water. Dredging through the "sand section" was a difficult operation; the ground being wet, it had to be piled the whole distance for railroad tracks. The material dredged had to be hauled long distances to the dumps by steam and horse power. The meeting of the dredges on the 16th November, and the opening of out cut through, was therefore a proper subject for felicitation, and the managers deserve credit for their energy in pushing through the season. The worst task is accomplished. Next season the dredges can dump directly into scows lying alongside; thereby celerity and economy will be prompted.

The dredging from the shore into the lake (Superior) amounted to only 2 or 3 feet one cut wide. This will probably fill up again, as it has done several times already. No channel can be kept open before the piers are built, and the dumping of sand into the lake from the canal excavations is discontinued. No dredging for piers was done; the powerful built for that purpose was not finished in time to take advantage of the good weather—in the months of April, May, June, July, and part of August—during which period only pier work can be successfully prosecuted.

Secondly. *Docking*—From Portage Lake to Lily Pond, the following work has been done: East side of canal, crib 18 x 18 ft., sunk in 13 ft. water, not built above surface; thence three rows piles driven 420 feet; thence dock 300 ft. long, 12 ft. wide, completed; thence 2,728 ft. regular dock 7 feet wide, completed.

West side, crib 18 x 18 to surface of water; thence one row of piles 722 ft., and 2,416 feet, 2 rows of piles and 1 stick of timber on front line, and 600 or 800 ft. of sheet-piling included; thus we have 6,586 *feet of docking completed and partially completed, while* 17,630 *feet remains to be done.* Owing to the mass of roots and timber in Tamarack section I apprehend considerable difficulty will be met with pile driving. The piles must be at least 10 inches dia. at small end, and the hammers heavy to crush through the roots. The heaviest kind of piles will also be required through the "sand sec.," when the banks will be high and the lateral thrust or pressure will be very great. Great care will be necessary in the construction of these docks, the best of timber must be used, and the piles and sheet-piling must be driven deep below the bottom of the canal and closely.

PIER WORK.

Early in the spring I established lines for the piers, following the original plan drawn by Eng. Greene, and approved by Gen. Crapo, and I have already described

this work. The dredge intended for outside work not being ready, the superintendent commenced sinking cribs in deep water, at the 20 ft. deep limit, hoping that by the time the work was brought in to 14½ ft. deep water, when the dredging would have to begin, the new dredge would be done. But the dredge was not finished until the 1st September. Had the dredge been ready to operate on the 1st of May, the civil work, at least, of both piers could have been built and sunk, and a large portion of the pier finished. Whole length of piers to be built as per specification, 1,518 ft. West pier, as per Green's plan, 834 ft. East, 684. By reference to the plan accompanying their report you will see that 352 ft. of the west pier and 160 ft. of east pier are in place. May call it cribs brought to surface of water no more. These sections were somewhat damaged by the August and October gales. Being unfinished, I expect that only the work below the water line will be formed in the spring. I am authorized by the president of the company, Mr. Avery, to say that this important branch of the work will be placed next season under the special control of the State engineer, free from interference from any quarter.

With the new dredge ready to operate as soon as the ice is out, with plenty of timber, iron, stone on hand, I can see no reason why the piers cannot be completed by the 1st of Sept. From my observations I am of opinion that in order to guard the mouth of the canal effectually *and smooth the sea* between the piers, that the pier on each side should be extended out 200 ft. further and be 30 ft. wide. The whole lines of piers required to be backed up with stone. The original plan of the piers is, in my opinion, faulty in this respect, namely, the piers should be 30 ft. wide *from top to bottom*, from the point 14½ feet depth of water out to 20 ft. water. The force of the waves on this exposed coast is very great, therefore the piers should be correspondingly massive in order to present an effectual resistance.

The amount of excavation, by dredging or otherwise, done at date (November 16, 1870), is as follows: 652,851 cubic yds.; there remains to be done 327,840 yards—total 979,691.

I herewith append a list of machinery tools belonging to the company and now in use on the canal. You will perceive that provision is ample to complete the work on the canal.

In conclusion, I venture the opinion that the canal will be finished entire by the 1st of November, 1871, provided right action is taken next spring and energetically sustained during the season.

Respectfully submitted:

J. H. FOSTER,
State Eng'r on Canal.

(Indorsed:) Report of J. H. Forster, giving condition of canal Dec. 13, 1870; addressed to Governor Baldwin. Exhibit Q.

EXHIBIT R.

PORTAGE LAKE AND LAKE SUPERIOR SHIP CANAL,
Houghton County, Michigan, Dec. 30, 1871.

To his Excellency Governor H. P. BALDWIN:

DEAR SIR: I have the honor to lay before you my annual report on the P. L. and L. S. Ship Canal, now constructing.

Accompanying this report you will please find a chart, which, by comparison with the chart presented last year, will show the progress made during the season of 1871. In my last annual report I gave a detailed description of this canal; therefore I do not deem it necessary to go over the same ground again. A statement of what has actually been done during the season which ended on the 16th of November will, I trust, suffice.

In reviewing the work of last year I stated that the canal could be completed and opened for navigation in the fall of 1871, provided that work with a competent force and ample means should be resumed on the 1st of May. But I am sorry to say that my hopes have not been realized, as will be seen further on; there remains still much to be done before the canal will be ready for your approval as a finished work. The financial embarassments of the company have been the sole cause of the delay.

Under the able management of the company's general superintendent, Isaac Otis, esq., all was done that could have been done under such adverse circumstances. It may not be improper to say here that my relations with this gentleman in business affairs have been very agreeable, and that he has at all times shown an earnest disposition to construct the works in accordance with the exact terms of the contract with the State.

As before stated, general operations for the season of 1870 closed on the 16th November. By reason of the snow and ice all of the dredges were laid up. But Mr. Otis resolved to try the experiment of making one of the steam dry excavators, served by two locomotives and trains of sand cars, during the inclement winter months. Although occasionally hindered by deep snows and stormy weather, his experiment was a success; on the west side of the canal he carried one deep cut through the sand section a distance of about 3,000 feet.

During the winter and spring of 1871 three of the dredges were thoroughly overhauled in hulls and machinery, by which means they were made stronger and more effective than they were when new. A large quantity of wood for fuel, piles and sheet piling, plank, and timber were gotten out.

However, upon the opening of navigation, owing to want of funds, Superintendent Otis found himself illy prepared to resume active operations. His dredges were not ready; his men, comparatively few in numbers, were much dissatisfied because no pay-day had occurred for many months. That the whole force was not disbanded was owing in the main to the superintendent's tact and executive ability.

Sixty days of the best part of a short Lake Superior season were frittered away. But one dredge got fairly at work on the 15th of June, it was not until the middle of July that the second dredge began work, and it was as late as the 15th August before the third dredge was set to work. The two other dredges belonging to the company were not put in commission during the season.

On the 21st August the dry excavator (with locomotives, cars, and tracks), having been transferred from the west to the east side of the canal, resumed work in sand section; without serious interruption and with great economy it was run until the 20th of November. It was the intention of Mr. Otis to run it during the winter, but the men abandoned the machine because they were not paid. It stopped at a point 900 feet from Lake Superior. It is to be regretted that the excavator could not have been run during the winter, the work it would have done would have hastened the time for opening the canal navigation very considerably.

PIER WORK.

Work on the pier was not resumed until the 15th of July, after the best of the calm season (during which time only piers can be laid down with safety and economy) had elapsed. Only a small force was employed at any time. This fact, taken in connection with another fact, namely, that the season was one of the stormiest ever known, the great lake, after the 1st of July, having been almost constantly agitated by high winds, accounts for the meager amount of pier work accomplished during the season. The showing is indeed very unsatisfactory, scarcely worth mentioning. I may as well conclude this branch of my report here, by stating what additions have been made to the piers this year, and in making a recommendation. One large crib 64 x 32 ft., strong as timber and iron could make it, was sunk at the end of the west pier. It is only one foot above the surface of the water. Although only three-fourths piled with stone, it withstood the late heavy fall gales and tremendous seas well; whether it will stand during the winter remains to be seen. No more stone could be brought from the quarry, owing to the stormy weather and the final total wrecking of stone scows. A small crib 20 x 32 ft. was sunk in line of the east pier, shore end. Two cribs were sunk to fill up the gap between the old condemned pier and the new pier, west side. But inasmuch as they soon sunk as barriers to protect the company's tugs and dredges, and are not in line with the true pier, they add nothing to the breakwater proper. The crib *colored red* on the chart illustrates what has been said.

Permit me to mention here that the cribs that were sunk during the seasons 1869 and '70, have not been moved out of position. Owing to their low, unplanked, unfinished condition, the waves have torn off some of the superstructure, but nothing has occurred that may not be easily remedied. Under the circumstances they have stood better than I expected.

On the chart you will observe that I have prolonged the east pier, and marked the section "proposed extension." From my observations on the force of the waves, and the manner in which the heaviest (from the north) strike the piers, and surge against the shore, I am firmly and decidedly of the opinion that this "extension" ought to be made in order to break up the seas and prevent their rolling up into the canal and damaging the interior docking.

When I laid out the piers in 1870 I placed the buoys so as to have the east pier extend out as far as the west, but the then superintendent would not permit the contractor to begin at the point designated. The entire length of crib-work in place now is 574 feet, raised only to the surface of the water; the length of crib-work to be placed is 1,150 feet. The piers, as per specifications, are to be built up eight feet above the surface of the water, filled with stone and planked on top; all of this superstructure for the whole length of piers has yet to be done. The proposed extension will add 190 feet to the piers. All of the pier-work could be easily completed in three months.

DREDGING, 1871.

The dredges began at a point 400 feet south of Red Store, and worked northward to and in sand section. They carried the cut nearly full width at the water line. The dippers were marked to dig 14 feet, but owing to the running in of the sand from the banks only an average of 11 feet was attained. I beg to refer you to the soundings laid down on the chart.

At the close of the season the dredges were in the following order of position: No. 4, 1,350 feet from Lake Superior; No. 3, 1,600 feet; and No. 2, 2,000. The work was executed in a systematic and economic manner, and for the time engaged a very large quantity of sand was removed.

The whole quantity removed by dredges and dry excavator since the date of my last annual report is 222,968 cubic yards, leaving as per former estimates 104,968 cubic yards to be removed. To which I add supposed amount of filling up by washing down of sand dumps at Lake Superior entrance 10,000 yards. Add, also, leakage from scows while towing into Portage Lake 5,000 yards. Add, likewise, extra dredging occasioned by rise of the general lake level $\frac{8}{10}$ths of a foot, 29,489 yards, making a sum total of 149,437 yards to be removed.

The grand total number of cubic yards to be removed from prism of canal and the two lake entrances, including much redredging, pier foundations, extra widening, slopes, &c., will probably foot up 1,049,170 cubic yards. The original estimates by my predecessor gave 938,922 cubic yards.

I am under the impression that the slopes in the sand section will have to be 2 to 1 to stand.

No dredging was done south of a point 3,800 feet from Lake Superior during the year.

PILING AND DOCKING.

One steam pile-driver began work late in the season. The powder anins were condemned after a fair trial in the sand section. They burned or exploded as high as two hundred ounce-cartridges driving one pile. On the west side of the canal a double row of piles was drived and sawed off (in Tamarack sec.), 1,100 feet in extent. On the opposite side a single row was simply driven next the bank, extending in line 2,250 feet. This is all that was accomplished under this head. Although, as will be seen by the charts of 1870 and '71, which I have the honor to lay before you, much remains to be done in docking, yet the work can be so rapidly executed that two months would be ample time to insure completion. Through the sand section, however, great care must be exercised in driving and fastening the piles and sheet-piling to insure good work. I have advised that large piles 20 to 25 feet long be used. The anticipated danger is from the lateral thrust or pressure of the high banks as well as the undermining of the piles in a sandy bottom by the displacement of water occasioned by the passage of vessels.

I must not omit to mention that the banks in the Tamarack Sec, so thoroughly interlaced by fallen timber and roots, as you will recollect are actually undermining, the steaming of tug-boats producing this result. Hence substantial docking is necessary in this section as elsewhere, as we decided two years ago. No difficulty was experienced in driving piles among the roots. Many and heavy blows are requisite in the sand section to drive a pile home. A glance at the charts will show the spans yet to be filled with piles. This work (docking) is in such a scattered, crude, unfinished state, I do not attempt to present an exact statement in regard to it, deeming that I have said in this and my former report sufficient.

In conclusion I am happy to say that the canal is far advanced toward completion. The work done the present season has changed for the better the general appearance of the canal. In rural phrase it looks as though we were nearly out of the woods; the worst is over. With a well organized force of dredge-men, pile drivers, and mechanics, with the requisite timber and stone on hand, and with funds to meet promptly the current monthly expenses, I can see no reason why the company may not be prepared to let large steamers through the canal on the fourth of July, 1872. The entire work could be finished ready for your acceptance on the 1st of October. It is to be hoped that the company will be prepared to resume work on the 1st of May next, and that no interruption thereafter will occur to postpone the time when this much needed canal shall be thrown open to the commerce of the Great Lakes.

Respectfully submitted.

JOHN H. FOSTER,
Eng'r for State.

P. S.—In view of the early opening of the canal I would respectfully suggest that a light-house to be located at the Lake Superior entrance should be erected next season.

J. H. F.

(Indorsed:) Exhibit R. Report of J. H. Forster giving condition of canal, Dec. 30, 1871. Addressed to Governor Baldwin.

EXHIBIT 20.

SCHEDULE A.

	Sec.	Town.	Range.		Sec.	Town.	Range.
East ½ of	9	46	7 W.	SW. ¼ of	25	48	8 W.
S. ½ of NW. ¼	21	"	"	E. ½ of	26	"	"
SE. ¼ of	11	47	"	W. ½ of NW. ¼	30	"	"
SE. ¼ of	14	"	"	SE. ¼ of NW. ¼	"	"	"
W. ½ of SW. ¼	18	"	"	N. ½ of NW. ¼	31	"	"
E. ½ of	22	"	"	S. ½ of SW. ¼	"	"	"
SW. ¼ of	23	"	"	NW. ¼ of	35	"	"
E. ½ of SE. ¼	31	"	"	E. ½ of SE. ¼	"	"	"
SW. ¼ of SE. ¼	"	"	"	W. ½ of	36	"	"
W. ½ of	1	"	8	NW. ¼ of	5	"	9
E. ½ of	2	"	"	N. ½ of SW. ¼	"	"	"
SW. ¼ of	6	"	"	NW. ¼ of SE. ¼	"	"	"
W. ½ of NE. ¼	11	"	"	N. ½ of	6	"	"
NE. ¼ of NE. ¼	"	"	"	N. ½ of SE. ¼	"	"	"
NW. ¼ of SE. ¼	"	"	"	N. ½ of SW. ¼	"	"	"
SE. ¼ of SE. ¼	"	"	"	E. ½ of	7	"	"
SW. ¼ of	12	"	"	E. ½ of NW. ¼	"	"	"
NE. ¼ of	13	"	"	SW. ¼ of NW ¼	"	"	"
W. ½ of	"	"	"	W. ½ of NE. ¼	8	"	"
E. ½ of SE. ¼	"	"	"	E ½ of NW. ¼	8	"	"
N. ½ of	14	"	"	SW. ¼ of	"	"	"
SE. ¼ of	"	"	"	NE. ¼ of SW. ¼	9	"	"
All of	17	"	"	S. ½ of SW. ¼	"	"	"
S. ½ of SE. ¼	20	"	"	NE. ¼ of	25	"	"
NW. ¼ of	28	"	"	S. ½ of	"	"	"
W. ½ of NE. ¼	29	27	"	E. ½ of NE. ¼	34	"	"
N. ½ of	25	48	"	S. ½ of	"	"	"
N. ½ of	36	48	9 W.	N. ½ of NW. ¼	31	49	8 W.
SE. ¼ of	"	"	"	NE ¼ of	25	"	9
NW. ¼ of	30	49	8 "	SW. ¼ of	"	"	"
N ½ of SW. ¼	"	"	"	E. ½ of	25	"	10
SE. ¼ of SW. ¼	"	"	"	E. ½ of	36	"	"
N. ½ of NE. ¼	31	"	"				
SE. ¼ of NE. ¼	"	"	"				

I hereby certify the foregoing "Schedule A" to be the "Schedule A" referred to in the foregoing affidavit.

THOS. M. JAMES,
Notary Public, Saginaw Co. Mich.

SAGINAW, MICH., *January* 3, 1882.

EXHIBIT 25.

Marquette, Michigan, District Land Office. Areas of lands disposed of under private disposals, homestead and timber culture entries, between April 17, 1868, *and January* 17, 1879.

	Acres.
April 17 to June 30, 1868	3,847.67
Fiscal year 1869, P. 226 An. Rpt	30,072.05
" " 1870, " 288 " "	23,146.72
" " 1871, " 298 " "	43,934.69
" " 1872, " 278 " "	138,608.34
" " 1873, " 258 " "	409,590.37
" " 1874, " 268 " "	121,627.19
" " 1875, " 386 " "	38,857.97
" " 1876, " 140 " "	48,809.08
" " 1877, " 163 " "	21,407.80
" " 1878, " 155 " "	41,625.40
June 30, '78, to Jan. 1, 1879, P. 233 An. Rpt	20,245.66
Jan'y 1, to Jan'y 17, 1879	673.43
Total	942,446.28
Apr. 17, '68, to Jan. 17, '79, under wt. locations	293,480
Grand total	1,235,926.28

EXHIBIT 26.

Subdivision.	Sec.	Town.	Range.	By whom entered.	Marks that appear on "Plat Book." The letter C when it occurs plainly appears thus:
E. ½	9	46	7 W.	Henry W. Sage, July 20, '71	
S. ½ NW. ¼	21	"	"	do Oct. 6, '71	
SE. ¼	11	47	7 W.	C. T. Moore, Feb. 10, '73	C. J. M.
SE ¼	14	"	"	Palms & Driggs, trustees, May 8, '82	
W. ½ SW. ¼	18	"	"	H. W. Sage, Oct. 6, '71	
E. ½	22	"	"	N. ½ of SE. ¼ and NE ¼. H. W. Sage, July 20, '71; SE. ¼ of SE. ¼, H. W. Sage, Oct. 5, '71. (SW. ¼ of SE. ¼ is swamp land.)	
SW. ¼	23	"	"	H. W. Sage, Oct. 6, '71	Marked C+.
E. ½ SE. ¼	31	"	"	NE ¼ of SE ¼, State land; SE. ¼ of SE. ¼, H. W. Sage, Oct. 6, '71.	" "
SW. ¼ SE ¼	31	"	"	H. W. Sage, Oct. 6, '71	
W. ½	1	47	8 W.	John B. Fleitz, May 29, '76; patented Nov. 3, '76.	
E. ½	2	"	"	SE. ¼, H. W. Sage, Aug. 2, '71; NE. ¼, H. W. Sage, Oct. 5, '71.	C+.
SW. ¼	6	"	"	E. ½ SW. ¼, H. W. Sage, July 20, '71; NW. ¼ SW. ¼, H. W. Sage, Oct. 5, '71. (SW. ¼ of SW. ¼ is S. L.)	C+.
W. ½ NE ¼	11	"	"	H. W. Sage, Aug. 2, '71	C+, partly erased.
NE ¼ NE. ¼	11	"	"	do	" " "
NW. ¼ SE. ¼	11	"	"	do	" " "
SE. ¼ SE. ¼	11	"	"	H. W. Sage, Oct. 6, '71	C+.
SW. ¼	12	"	"	do Aug. 2, '71	
W. ½	13	"	"	NW. ¼, H. W. Sage, Aug. 2, '71; SW. ¼, Herman Devo, Aug. 13, '73	H. D.
E. ½ SE. ¼	13	"	"	H. W. Sage, July 20, '71	
NE. ¼	13	"	"	H. W. Sage, Aug. 2, '71	
N. ½	14	"	"	do	C+, partly erased.
SE. ¼	14	"	"	Geo. Rogers, Nov. 4, '76	E.
Entire	17	"	"	H. W. Sage, Oct, 2, '71	C+, partly erased.
S ½ SE. ¼	20	"	"	State land	
NW. ¼	28	"	"	Crozier Davison, June 21, '67	
W. ½ of NE. ¼	29	27	"		
N. ½	25	48	8 W.	H. W. Sage, Aug. 2, '71	C+. " "
N. ½	36	48	9 W.	NE. ¼, Ira C. Fuller, May 27, '67; NW. ¼, H. W. Sage, Aug. 25, '71.	Marks of erasure.
SE. ¼	36	"	"	N. ½ of SE ¼, H. W. Sage, Aug. 2. '71; S. ½ of SE. ¼, Crozier Davison, July 16, '67.	
NW. ¼	30	49	8 W.	E. ½ of NW. ¼, H. W. Sage, Aug. 2. '71; W. ½ of NW. ¼, H. W. Sage, Aug. 25, '71.	C+.
N. ½ SW. ¼	30	"	"	NW. ¼ of SW. ¼, H. W. Sage, Aug. 25, '71; NE. ¼ of SW. ¼, H. W. Sage, Aug. 2, '71.	C+.
SE. ¼ SW. ¼	30	"	"	H. W. Sage, Aug. 2, '71	C+.
N. ½ NE. ¼	31	"	"	NE. ¼ of NE ¼, swamp land; NW. ¼ of NE. ¼, H. W. Sage, July 20, '71.	E.
SE ¼ NE. ¼	31	"	"	Francis Palms, June 5, '71	
N. ½ NW. ¼	31	"	"	NW ¼ of NW. ¼, H. W. Sage, Oct. 5. '71; NE. ¼ of NW. ¼, H. W. Sage, July 20, '71	C+.
NE. ¼	25	49	9 W.	H. W. Sage, Aug. 2, '71	
SW. ¼	25	"	"	do	
E. ½	25	49	10 W.	do	C+.
E. ½	36	"	"	do	
SW. ¼	25	48	8 W.	H. W. Sage, Aug. 2, '71	C+, partly erased.
E. ½	26	"	"	do	" " "
W. ½ NW. ¼	30	"	"	Ira C. Fuller, May 25, '67	
SE. ¼ NW. ¼	30	"	"	do	
N. ½ NW. ¼	31	"	"	do	
S. ½ SW. ¼	31	"	"	do	
NW. ¼	35	"	"	H. W. Sage, Aug. 2, '71	
E. ½ SE. ¼	35	"	"	" July 20, '71	
W. ½	36	"	"	" Aug. 2. '71	C+, nearly erased.
NW. ¼	5	48	9 W.	" Aug. 25, '71	" " "
N. ½ SW. ¼	5	"	"	" July 20, '71	
NW. ¼ SE. ¼	5	"	"	" Aug 25, '71	" " "
N. ½	6	"	"	NW. ¼ of NE. ¼, NE. ¼ of NW. ¼ and W. ½ of NW. ¼, H. W. Sage, Aug. 25, '71; SE. ¼ of NW. ¼, SW. ¼ of NE ¼, and E. ½ NE. ¼, H. W. Sage, Oct. 5, '71.	C+.
N. ½ SE. ¼	6	"	"	H. W. Sage, Aug. 2, '71	C+, partly erased.
N. ½ SW. ¼	6	"	"	" Aug. 4, '68	E.
E. ½	7	"	"	NE. ¼ and W. ½ of SE. ¼, H. W. Sage, Aug. 2, '71; SE. ¼ of SE. ¼, H. W. Sage, Oct. 5, '71; NE. ¼ of SE. ¼, St. land.	C+, partly erased.
E. ½ NW. ¼	7	"	"	H. W. Sage, Aug. 2, '71	C+, partly erased.
SW. ¼ NW ¼	7	"	"	" Oct. 5, '71	C.

EXHIBIT 26—Continued.

Subdivision.	Sec.	Town.	Range.	By whom entered.	Marks that appear on "Plat Book." The letter C when it occurs plainly appears thus:
W. ½ NE. ¼	8	48	9 W.	H. W. Sage, Aug. 2, '71	Marks of erasure.
E. ½ NW. ¼	8	"	"	" "	" " "
SW. ¼	8	"	"	" "	" " "
NE. ¼ SW. ¼	9	"	"	" July 20, '71	" " "
S. ½ SW. ¼	9	"	"	SE. ¼ of SW. ¼, July 20, '71, H. W. Sage; SW. ¼ of SW. ¼, Oct. 5, '71, H. W. Sage.	C+.
NE. ¼	25	"	"	H. W. Sage, Aug. 2, '71	Marks of erasure.
S. ½	25	"	"	do	" " "
E. ½ NE. ¼	34	"	"	H. W. Sage, July 20, '71	
S. ½	34	"	"	" Aug. 2, '71	

EXHIBIT 27.

List of entries in odd sections within railroad grant made between April 1, 1868, *and May* 29, 1873.

Date.	Names.	Subdivision.	Sec.	T.	R.	Area.
						Acres
July 15, 1871	H. Ludington	W. ½ of NW. ¼	29	45	34	80
July 15, 1871	Same	Lot No. 7, Lot No. 8	29	"	"	118.88
July 11, 1871	Chas. Hebard	W. fr'l ½ of Sec., N. ½ of NE. ¼, S. ½ of SE. ¼, and NW. ¼ of SE. ¼.	31	"	"	513.03
July 15, 1871	H. Ludington	NE. ¼ of SW. ¼ Sec. 3, SW. ¼ of SW. ¼ 15, and SE. ¼ of SW. ¼.	17	43	35	120
July 15, 1871	H. Ludington	W. ½ of NW. ¼ Sec	27	"	"	80
July 15, 1871	H. Ludington	SW. ¼ of SE. ¼	35	44	"	40
Ju'y 15, 1871	H. Ludington	SW. ¼ of NW. ¼	19	45	"	40
July 15, 1871	H. Ludington	S. ½ of SE. ¼	25	"	"	80

RECAPITULATION.

		Acres.
1871.	H. Ludington	558.88
1871.	Charles Hebard	513.03
		1,071.91

1872.

Date.	Names.	Subdivision.	Sec.	T.	R.	Area.
						Acres.
June 11, 1872	Charles Hebard	Lot No. 3	5	44	34	40
July 10, 1872	Chas. Hebard	Entire section	9	"	"	640
June 21, 1872	Wm. S. Patrick	Lot No. 4, Sec. 17, and Lot No. 1	23	"	"	75.20
July 11, 1872	Charles Hebard	W. fr'l ½ of NW. ¼, SW. ¼ of SE. ¼ 19, and Lot No. 7.	21	45	"	145.86
July 10, 1872	Charles Hebard	W. ½ of SW. ¼ 17, SE. ¼ of SE. ¼	19	"	"	120
July 10, 1872	Charles Hebard	SW. ¼ Sec. 33, W. ½ of SW. ¼	35	"	"	240
July 1, 1872	Wm. S. Patrick	N. fr'l ½ of NW. ¼	7	43	35	72.06
July 10, 1872	Charles Hebard	SE. ¼ of NW. ¼	15	"	"	40
July 10, 1872	Charles Hebard	NW. ¼ of NE. ¼; S. ½ of SE. ¼, S. ½ of NE. ¼, and SE. ¼ of SW. ¼	9	44	35	240
July 10, 1872	Charles Hebard	S. ½ of NE. ¼, SE. ¼ of SE. ¼, and NW. ¼ of SE. ¼.	11	"	"	160
July 10, 1872	Charles Hebard	NE. ¼ of NE. ¼, SW. ¼ of NE. ¼, NW. ¼ of SW. ¼, SW. ¼ of NW. ¼.	13	"	"	160
July 3, 1872	W. S. Patrick	SW. ¼ of SW. ¼ 9 and SE. ¼ of SE. ¼	15	"	"	80
July 6, 1872	W. S. Patrick	E. ½ of SE. ¼ and SE. ¼ of NE. ¼	17	"	"	120
July 6, 1872	W. S. Patrick	W. ½ of NE. ¼ and SE. ¼ of NE. ¼	19	"	"	120
July 6, 1872	W. S. Patrick	N. ½ of NE. ¼	21	"	"	80
July 10, 1872	Charles Hebard	N. ½ of NW. ¼, SW. ¼ of NW. ¼ Sec. 17, and N. ½ of NW. ¼.	21	"	"	200
July 3, 1872	Wm. S. Patrick	NW. ¼ of SW. ¼	21	44	35	40
July 10, 1872	Charles Hebard	NW. ¼ of NE. ¼, E. ½ of NW. ¼, SW. ¼ of NW. ¼, and NW. ¼ of SW. ¼.	23	"	"	200

EXHIBIT 27—Continued.

Date.	Names.	Subdivision.	Sec.	T.	R.	Area.
						Acres.
July 10, 1872	Charles Hebard	S. ½ of SE. ¼, NW. ¼ of SE. ¼, E. ½ SW. ¼ Sec. 1, and SW. ¼ of SW. ¼.	3	45	35	240
July 12, 1872	Charles Hebard	SE. ¼ of SE. ¼. Sec. 5, E. ½ of SE ¼, and SW. ¼ of NE. ¼.	7	"	"	160
July 12, 1872	Charles Hebard	SE. ¼, S. ½ of NE. ¼, and NW. ¼ of SW. ¼.	9	"	"	280
July 12, 1872	Charles Hebard	S. ½ of Section, S. ½ of NW. ¼. S. ½ of NE. ¼. Sec. 11, E. ½ of SW. ¼, and SE. ¼ of SE. ¼.	13	"	"	600
June 12, 1872	Charles Hebard	W. ½ of NE. ¼ Sec. 15, E. ½ of Section, NW. ¼ and SE. ¼ of SW. ¼.	17	"	"	600
June 12, 1872	Charles Hebard	N. ½ of SE. ¼, SW. ¼ of NE. ¼	25	45	35	120
June 12, 1872	Charles Hebard	N. ½ of SE. ¼, SW. ¼ of SE. ¼	27			120
June 12, 1872	Charles Hebard	SW. ¼ of Sec	35	"	"	160
Aug. 15, 1872	W. S. Patrick	S. ½ of SW. ¼	21	46	"	80
July 1, 1872	W. S. Patrick	SE. ¼ of NW. ¼, 11, and NW. ¼ of NW. ¼	19	43	36	120.14
July 1, 1872	W. S. Patrick	NW. ¼ of SW. ¼ and SW. ¼ of NW ¼	1	"	"	80
July 1, 1872	Wm. S. Patrick	E. ½ of SE. ¼ and SW. ¼ of SE. ¼	29	"	"	120
July 1, 1872	W. S. Patrick	W. ½ of NW. ¼ and W. ½ of SW. ¼	33	"	"	160
June 5, 1872	Wm. S. Patrick	NE. ¼ of NE. ¼	5	44	"	41.17
June 5, 1872	Wm. S. Patrick	E. ½ of NE. ¼ and E. ½ of NW. ¼	9	"	"	160
June 5, 1872	Wm. S. Patrick	SW. ¼	9	"	"	160
June 5, 1872	Wm. S. Patrick	SE. ¼	9	44	36	160
June 6, 1872	Wm. S. Patrick	S. ½ of SE. ¼ and NW. ¼ of SE. ¼	15	"	"	120
June 6, 1872	Wm. S. Patrick	N. ½ of SW. ¼	15	"	"	80
June 6, 1872	Wm. S. Patrick	S. ½ of SW. ¼	15	"	"	80
June 6, 1872	Wm. S. Patrick	S. ½ of NW ¼	15	"	"	80
June 5, 1872	Wm S. Patrick	SE. ¼ of NW. ¼, E. ½ of SE. ¼, SW. ¼ of SE. ¼, E. ½ of SW. ¼, and SW. ¼ of SW. ¼.	17	"	"	280
June 6, 1872	Wm. S. Patrick	N. ½ of NE. ¼ and SE. ¼ of NE. ¼	17	"	"	120
June 6, 1872	Wm. S. Patrick	W. ½ of NW. ¼	21	"	"	80
June 6, 1872	Wm. S. Patrick	E. ½ of NW. ¼	21	"	"	80
June 6, 1872	Wm. S. Patrick	NE. ¼	21	"	"	160
July 3, 1872	Wm. S. Patrick	NE. ¼ of SE. ¼	11	"	"	40
June 6, 1872	Wm. S. Patrick	NW. ¼	27	44	36	160
July 6, 1872	Wm. S. Patrick	E. ½ of NE ¼	33	"	"	80
June 6, "	Francis Palms	NE. ¼, N. ½ of SE. ¼ and E. ½ of NW. ¼	19	"	"	320
Nov. 9, "	T. Woodford	SW. ¼ of SW. ¼	7	46	"	35.23
Nov. 9, "	do	NE. ¼ of NE. ¼	13	"	37	40
Aug. 12, "	E. Hubbard	SE. ¼ of SE. ¼, 27, NE. ¼ of SW. ¼ 29, and SE. ¼ of SE. ¼.	31	47	"	120
Aug. 12, "	do	NE ¼ of NE. ¼. NE. ¼ of NW. ¼, and SW. ¼ of SW. ¼.	33	"	"	120
July 10. "	Charles Hebard	NE. fr'l ¼. SE. ¼ of NW. ¼. N. ½ of SW. ¼, and SE. ¼ of SE. ¼.	5	44	34	322.42
July 10, "	Charles Hebard	NW. ¼ of SE. ¼	5	"	"	40

RECAPITULATION, 1872.

	Acres.
Charles Hebard	4,788.22
Wm. S. Patrick	3,035.67
Francis Palms	320.00
T. Woodford	75.23
E. Hubbard	240.00
	8,459.09

1873.

Date.	Names.	Subdivision.	Sec.	T.	R.	Area.
						Acres.
Mar. 15, 1873	Jesse Spalding	NW. fr'l ¼ of NW. ¼ 3, E. ½ of SE. ¼ and Lot No. 1.	7	44	34	154.28
Mar. 15, "	....do	NE. ¼ of NW. ¼ and Lot No. 2	17	"	"	65.90
Mar. 15, "	....do	SE. ¼ of SW. ¼ Sec. 15, Lot No. 3, Sec. 29, S. ½ of NE. ¼.	31	45	"	155
Jan. 5, "	James Talbert	W. ½ of SE. ¼ and E. ½ of SW. ¼	11	42	35	160
Jan. 20, "	Jesse Spalding	NW. ¼ of SE. ¼, NE. ¼ of SW. ¼ and SE. ¼ of NW. ¼.	31	43	"	120
Jan. 20, "	Jesse Spalding	NE. ¼	31	43	35	160
Mar. 8, "	Chas. Hebard	E. ½ of SW. ¼ Sec. 1 and SW. ¼ of SW. ¼	3	44	"	240
Mar. 7, "	Jesse Spalding	S. ½ of SE. ¼. SE. ¼ of SW. ¼.	3	45	"	120
Mar. 21, "	....do	NE fr'l ¼ of NW. ¼, 3	3	45	"	41.32
May 19, "	...do	N. ½ of NE. ¼	29	"	"	80
Mar. 25, "	Jacob Frei & Co	NW. 4 of NW. ¼	13	42	36	40
April 3, "	... do	Lot No. 8, 11, NE. ¼ of NW. ¼ and NW. ¼ of NE. ¼.	13	"	"	115.60

EXHIBIT 27—Continued.

Date.	Names.	Subdivision.	Sec.	T.	R.	Area.
						Acres.
Mch. 25, 1873	Jacob Frei & Co	NW. ¼ of NW. ¼	13	42	36	40 00
April 3, "	Jacob Frei	Lot No. 3	23	"	"	53.70
Feb. 18, "	Wm. S. Patrick	SW. ¼ of SE. ¼	11	44	"	40
Mch. 15, "	Jesse Spalding	NW. ¼ of SE. ¼	7	45	"	40
Mar. 7, "	Jesse Spalding	S. ½ of SW. ¼ and SW. ¼ of SE. ¼	21	"	"	120
Feb. 17, 1873	Jesse Spalding	S. ½ of SW. ¼, NW. ¼ of SW. ¼, and SW. ¼ of SE. ¼	23	45	36	160
Jan. 21, '73	W. S. Patrick	W. ½ of NE. ¼ and W. ½ of SE. ¼	17	46	"	160
Jan. 21, "	do	SE. ¼ of SE. ¼	17	"	"	40
May 2, "	John S. Ward & Co	SW. ¼ of SW. ¼	19	47	36	34.17
Mar. 15, "	Jesse Spalding	NW. ¼ of SE. ¼, SW. ¼ of NW. ¼, 1. W. ½ of SE. ¼, SW. ¼ of SW. ¼, 3, and NE. ¼ of NE. ¼	29	45	37	240
Jan. 21, "	W. S. Patrick & Co	SW. ¼ of SW. ¼	5	46	"	40
Jan. 24, "	do	NE. ¼ of SE. ¼	15	"	"	40
May 6, "	Jacob Frei & Co	NW. ½ and N. ½ of SW. ¼	25	47	38	240
June 7, "	Truman Woodford	SE. ¼ of SW. ¼, E. ½ of SE. Sec.	5	43	35	120
Mar. 7, "	Jesse Spalding	NE. ¼ of NE. ¼	11	44	36	40

RECAPITULATION, 1873.

	Acres.
Jesse Spalding	1,496.50
Jacob Frei & Co	489.30
W. S. Patrick	320.00
Truman Woodford	120.00
Jas. Talbert	160.00
Chas. Hebard	240.00
John E. Ward & Co	34.17
	2,859.97

GENERAL RECAPITULATION FROM APRIL 1, 1868, TO MAY 29, 1873.

Names.	Years.	Acres.	Total acres.
H. Ludington	1871	558.88	558.88
Charles Hebard	"	513.03	
Do	1872	4,788.22	
Do	1873	240.00	
			5,541.25
Wm. S. Patrick	1872	3,035.67	
Do	1873	320.00	
			3,355.67
Francis Palms	1872	320.00	320.00
Truman Woodford	1872	75.23	
Do	1873	120.00	
			195.23
E. Hubbard	1872	240.00	240.00
Jesse Spalding	1873	1,496.50	1,496.50
Jacob Frei & Co	1873	489.30	489.30
W. S. Patrick	1873	320.00	320.00
James Talbert	1873	160.00	160.00
John E. Ward & Co	1873	34.17	34.17
Total			12,711.00

EXHIBIT 28.

List of entries in odd sections within railroad grant made between May 29, 1873, and January 1, 1879.

Date.	Names.	Subdivision.	S.	T.	R.	Area.
July 5, 1873	Jesse Spalding	NW. ¼ of NE. ¼ and NE. ¼ of NW. ¼	7	45 N.	34 W.	80
July 7, 1873	Jesse Spalding	W. ½ of NW. ¼, SE. ¼ of NW. ¼, SW. ¼ of NE. ¼, and NW. ¼ of SE. ¼.	7	" "	" "	197
June 7, 1873	Truman Woodford	NW. ¼, NE. ¼, Sec. 29, NW. ¼, SE. ¼, and SW. ¼ of NE. ¼.	35	44	35	120
June 7, 1873	Jesse Spalding	S. ½ of SE. ¼	29	45	35	80
June 9, 1873	John Malvey	Entire section	3	42	36	574.06
June 7, 1873	Truman Woodford	SE. ¼ of NW. ¼	1	43	36	40
June 9, 1873	John Mulvey	W. ½ of NW. ¼, Lot No. 3	25	43	36	120
June 9, 1873	John Mulvey	NW. ¼ of NW. ¼, Lot No. 1, Lot No. 2, Lot No 3, Lot No. 4, Lot No. 5, Lot No. 6, Lot No. 7.	35	43	36	296.50
June 7, 1873	Jesse Spalding	NE. ¼, N. fr'l ½ of NW. ¼, NE. ¼ of SE. ¼, and SW. ¼ of SE. ¼.	7	45	36	316.16
June 7, 1873	Jesse Spalding	SW. ¼, S. ½ of NW. ¼, S. ½ of SE. ¼, and SW. ¼ of NE. ¼.	9	"	"	360
June 7, 1873	Jesse Spalding	SW. ¼ of SW. ¼ Sec. 5, and N. ½ of NE. ¼	17	"	"	120
June 7, 1873	Jesse Spalding	E. ½ of SE ¼ Sec. 15, SW. ¼ of SW. ¼, Sec. 17, SW. ¼ of NW. ¼, and SE ¼ of SE. ¼.	19	"	"	195.92
June 7, 1873	Jesse Spalding	N. ½ of NE. ¼ Sec. 27, and NW. ¼ of SE. ¼.	29	"	"	200

RECAPITULATION.

	Acres.
Jesse Spalding	1,549.08
Truman Woodford	160.00
John Malvey	990.56
	2,699.64

1875.

Date.	Names.	Subdivision.	S.	T.	R.	Area.
Feb. 25, 1875	E.G.Goddard & Jas.Tolbert	NW. ¼ of SE. ¼, Lot No. 6.	19	42	34	96
Feb. 25, 1875	Same	SE. ¼ of NW. ¼, Lot No. 4 and Lot No. 5.	19	"	"	98.70
Feb. 25, 1875	Same	N. fr'l ½ of SW. ¼, and SW. ¼ of NW. ¼	19	"	"	116.80
" " "	Same	SE. ¼ of SW. ¼, Sec	19	"	"	40
Aug. 4, 1875	R. R. Cable	SW. ¼, SE. ¼, 29, SE. ¼ of NE. ¼, and SE. ¼ of SE. ¼.	31	"	"	120
Aug. 17, 1875	Same	NW. ¼ of NW. ¼	13	"	35	40
Feb. 25, 1875	E. G. Goddard & Co	SW. ¼ of SE. ¼ and SE. ¼ of SW. ¼	25	"	"	80
Feb. 9, 1875	Jas. J. Hagerman & Co	S. ½ of SW. ¼	1	42	36	80
July 2, 1875	R. & S. M. Stephenson	SE. ¼ of NE. ¼ and Lot No. 1	1	"	"	74.70
Aug. 17, 1875	R. R. Cable	NW. ¼ of NE. ¼, NE. ¼ of NW. ¼ Sec. 5, NW. ¼ of NE. ¼, and Lot No. 2.	21	"	"	168.70
Aug. 17, 1875	R. R. Cable	SE. ¼ of NW. ¼, NE. ¼ of SW. ¼, Sec. 13, and NW. ¼ of NW. ¼.	27	43	"	120

RECAPITULATION.

	Acres.
E. G. Goddard & Talbert	351.50
E. G. Goddard & Co	40.00
R. R. Cable	448.70
J. J. Hagerman	80.00
R. & M. Stephenson	74.74
	994.94

EXHIBIT 28.—Continued.

1877.

Date.	Names.	Subdivision.	S.	T.	R.	Area.
Jan. 10, 1877	Jesse Spalding	NE. ¼ of SW. ¼ Sec. 7, and SW. ¼ of SW. ¼	9	45	34	120.
Nov. 23, 1877	Thos. S. Freeman, trustee	NE. ¼ of NW. ¼, SW. ¼ of NW. ¼ Sec. 11, Lot No. 3, Lot No. 4, Lot No. 5, Lot No. 6 Sec. 17, and E. ½ of NW. ¼.	19	43	36	327.15
Nov. 23, 1877	Same	NW. ¼ of NE. ¼, and NE. ¼ of NW. ¼, Sec 27, and S. ½ of NE. ¼.	29	"	"	160
Nov. 23, 1877	Thos. S. Freeman, trustee	NW. ¼ of NE ¼, E. ½ of NW. ¼, N. ½ of SW. ¼, SW. ¼ of SW. ¼ Sec. 29, and NE. ¼ of SW. ¼.	33	"	"	280

RECAPITULATION.

	Acres.
Jesse Spalding	120
Thos. S. Freeman, trustee	767.15
	887.15

1878.

Date.	Names.	Subdivision.	S.	T.	R.	Area.
July 2, 1878	Richard G. Peters	NW. ¼ of SE. ¼, W. ½ of NE ¼ Sec. 1, N. ½ of SE. ¼, and SW. ¼ of SE. ¼.	31	44	34	240
June 22, 1878	L. D. Cyr	SE. ¼ of NE. ¼ and SE. ¼ of SE. ¼	1	42	35	80

RECAPITULATION.

	Acres.
Richard G. Peters	240
L. D. Cyr	80
	320

GENERAL RECAPITULATION, FROM MAY 29, 1873, TO JANUARY 1, 1879.

Names.	Year.	Acres.	Total Acres.
Jesse Spalding	1873	1,549.08	
" "	1877	120.00	
			1,669.08
Truman Woodford	1873	160	160.00
John Malvey	1873	990.56	990.56
E. G. Goddard & Talbert	1875	355.50	
E. G. Goddard & Co	"	40.00	
			395.40
R. R. Cable	1875	448.70	448.70
J. J. Hagerman	1875	80.00	80.00
R. & M. Stevenson	1875	74.74	74.74
Thomas S Freeman, trustee	1877	767.15	767.15
Richard G. Peters	1878	240.00	240.00
L. D. Cyr	1878	80.00	80.00
Total			4,905.73

DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE,
Washington, D. C., April 19th, 1884.

I, L. Harrison, Acting Commissioner of the General Land Office, do hereby certify that the annexed copy of notice No. 561, dated June 13, 1856, withdrawing certain lands in the State of Michigan, is a true and literal exemplification of the original as the same appears upon record in this office.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

[SEAL.] L. HARRISON,
Acting Commissioner of General Land Office.

No. 561.

NOTICE OF THE WITHDRAWAL OF LANDS IN MICHIGAN.

In pursuance of the act of Congress approved 3d June, 1856, making a grant of land to the State of Michigan to aid in the construction of certain railroads in said State, instructions have just been given by this office to the registers and receivers to continue the reservation from sale and location of the following described lands as probably falling within the prescribed limits of selection until otherwise directed, as heretofore ordered by telegraph on the 30th of May last, to wit:

Office at Duncan.—All the lands in the district in the Southern Peninsula, between Range 1 west and 14 west, and south of Township 36; also in the Northern Peninsula all the lands north of Township 39 and west of Range 19 west.

Office at Ionia.—All the lands in the district except all those Townships 11, 12, 13, and 14 lying west of Range 14 west.

Office at Gennessee.—All the lands in the district except those Townships situated north of Township 17 and east of Range 3 east, and those north of Township 10 and east of Range 7 east.

Office at Detroit.—All the lands in the district lying between Townships 3 and 11 north, and all situated west of Range 2 east.

Office at Kalamazoo.—All the lands in the district lying east of Range 6 west.

Office at Sault Ste. Marie.—All the lands in the district situated south of Township 51 in Ranges 20 to 31, inclusive; south of Township 52 in Ranges 32 to 34, inclusive; south of Township 53 in Ranges 35 and 36; south of Township 54 in Ranges 37 and 38; north of Towirship 46 in Ranges 39 and 40, and north of Township 48 in Ranges 41 and 42.

These latter embracing nearly all the lands advertised in the President's proclamation No. 552, to be offered next July at *Sault Ste. Marie,* which will not therefore be offered at the public sale therein ordered.

Given under my hand at the General Land Office, in the city of Washington, this thirteenth day of June, 1856.

THOS. A. HENDRICKS,
Commissioner.

DEPARTMENT OF THE INTERIOR, GENERAL LAND OFFICE,
April 19, 1884.

I, N. C. McFarland, Commissioner of the General Land Office, do hereby certify that the annexed copy of a letter, dated Aug. 16, 1872, from the register of the land-office at Marquette, Michigan, relative to the admission of entries for lands within the six-mile limits of the grant for the Ontonagon Branch of the Chicago, St. Paul and Fond du Lac Railroad, is a true and literal exemplification of the original letter on file in this office and of the endorsements thereon.

In testimony whereof I have hereunto subscribed my name and caused the seal of this office to be affixed, at the city of Washington, on the day and year above written.

[SEAL.] N. C. MCFARLAND,
Commissioner of General Land Office.

LAND OFFICE, MARQUETTE, MICHIGAN,
August 16th, 1872.

Hon. WILLIS DRUMMOND,
Commissioner:

DEAR SIR: I have to ask the Department whether it is proper for this office to allow entries to be made within the six-mile limits on the odd-numbered sections of the old branch line of the Chicago, St. Paul and Fond du Lac Railroad, running from

the Wisconsin State line to Ontonagon, as it would seem this grant has been abandoned and the same been relinquished by said company to the State of Michigan and by the State of Michigan to the United States, and to that end this office, supposing that all of the lands within said grant outside of the Marquette and Ontonagon R. R. grant would be in market, have been permitting locations to be made, but on a more careful examination the question has arose in my mind whether, under all the circumstances, it is proper for this office to allow or permit locations to be made on the odd-numbered sections within the six-mile limits of said Branch R. R. line:

Therefore I have to ask that the Department will give this office full instructions upon that point, in order that I may not be in doubt as to what action I may take in the future in permitting locations to be made within said branch line railroad grant.

As I would here add that if the Department should find that this office has done wrong in permitting any of said locations to be made I should very much regret it, as it has been my aim to be very careful, and would add that I have been led to suppose that the same was subject to be located from the fact that the Portage Lake and Lake Superior Ship Canal Co. selected and had approved to them some 50,000 acres from the odd-numbered sections within the R. R. limits in question.

Requesting as early a reply as is practicable,

I am yours, with much respect,

AMBROSE CAMPBELL,
Register.

[Endorsements.]

LAND OFFICE, MARQUETTE, MICHIGAN,
August 16th, 1872.

Register's letter, asking for full instructions as regards the lands within the six-mile R. R. limits of the branch line from the Wisconsin State line to Ontonagon.

AMBROSE CAMPBELL,
Register.

(See letter of May 29, '73, to R. and R., ordering restoration of certain lands.)
August 20, 1872.

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